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Futures Thinking in City Planning Processes: the Case of Dublin

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Abstract

This research examines the scope for the application of futures methodologies in urban planning processes. As contemporary cities undergo rapid changes resulting from technological and cultural transformations, expanding globalisation and new economic trends, the traditional ways in which cities were planned and managed become less effective, especially in times of accelerating change and growing complexity. This research addresses an increasingly recognised need for a major shift in the way of thinking and acting about the future of cities, a shift from the traditional planning mind-set to a more imaginative, innovative and inclusive approach.

The main aims of the study were to gain an understanding of how the future is created in the current city planning processes; what is the potential role of futures methodologies in these processes; and to develop a suitable futures methodology that would assist planners and decision-makers in changing their ways of thinking and acting about the future of cities. In order to achieve these aims an in-depth examination of the Futures Studies field and an extensive review of the theory underpinning the current planning approach towards the future was undertaken. Also, the way in which the future is constructed in existing planning processes in Dublin (the main case study city) was investigated, and planning initiatives employing futures methods in Dublin were reviewed.

One of the main outcomes of the study was the adaptation of the Prospective methodology for use in urban planning processes. This was done in order to address the main problems and needs of current planning approach towards the future utilising the potential of futures methods. It is believed that the proposed methodology could assist communities in envisioning their desired future. It could also help planners and decision-makers in exploring future possibilities, understanding the complexities of urban environments and anticipating change and its consequences. The Prospective process could also be used as a platform for dialogue between communities and decision-makers and as a mechanism for collaboration amongst the stakeholders.

Key words: futures methods, Prospective, urban planning

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Abbreviations

ALC	Locally Involved Actors
APAJ	American Planning Association Journal
ARC FUND	Applied Research and Communications Fund
ASTPP	Advanced Science and Technology Policy Planning)
BASF	Facing Agri-food and Environmental Challenges
BRL	Ballymun Regeneration Limited
CAFTA	Community and Family Training Agency
CDB	City/County Development Board
CIE	Córas Iompair Éireann
CIRET	International Centre for Transdisciplinary Research
CLA	Casual Layered Analysis
CORDIS	Community Research and Development Information Service
COSLA	Convention of Scottish Local Authorities
CSO	Central Statistics Office
DATAR	Délégation à l'Aménagement du Territoire et à l'Action Régionale
DCBA	Dublin City Business Association
DCC	Dublin Chamber of Commerce
DCC	Dublin City Council
DCDB	Dublin City Development Board
DDDA	Dublin Docklands Development Authority
DFFN	Design for Future Needs
DIT	Dublin Institute of Technology
DoELG	Department of Environment and Local Government
DTO	Dublin Transportation Office
DTS	Dublin Transportation Study
EC	European Commission
ECFESD	European Consultative Forum on Environment and Sustainable Development
EDF	Electricité de France
EDURC	Economic Development and Urban Regeneration Committee
eFORESEE	Exchange of Foresight Relevant Experiences for Small European and Enlargement Countries
EPA	Environmental Protection Agency
ESRI	Economic and Social Research Institute
EU	European Union
Europolis	Scenarios for the Evaluation of the European Science and Technology Policy
Europta	European Participatory Technology Assessment
FÁS	Foras Áiseanna Saothair
FAST	Forecasting and Assessment in the Field of Science and Technology
Fomofo	Four Motors Foresight Initiative
FOREN	Foresight for Regional Development
Formakin	Foresight as a Tool for the Management of Knowledge Flows and Innovation
GAP	Global Action Plan
GDAA	Greater Dublin Area Authority
GVRD	Greater Vancouver Regional District

HARP	Historic Area Rejuvenation Project
IBEC	Irish Business and Employers Confederation
ICW 2010	Armed Forces
IDA	Ireland Development Agency
IFSC	Irish Financial Services Centre
IIUE	International Institute for the Urban Environment
IPTS	Institute for Prospective Technological Studies
ITSAFE	Integrating Technological and Social Aspects of Foresight in Europe
JRC	Joint Research Centre
LUAS	Light Rail System
MEP	Member of the European Parliament
MICMAC	MICMAC method
NDP	National Development Plan
NESC	National Economic and Social Council
NI	Northern Ireland
NIRSA	National Institute for Regional and Spatial Analysis
NRA	National Road Authority
NSS	National Spatial Strategy
NUTS III	Nomenclature of Territorial Statistical Units – Region III
OECD	Organisation for Economic Co-operation and Development
PPPs	Public Private Partnerships
RAF	Royal Air Force
RAND	Research and Development Unit
RPG	Regional Planning Guidelines
SWOT	Strengths Weaknesses Opportunities Threats
TAMI	Technology Assessment in Europe; Between Method and Impact
TCD	Trinity College Dublin
TD	Teachta Dála
TRANSLAND	Transland International Limited
UCD	University College Dublin
UK	United Kingdom
UN	United Nations
US	United States
USA	Unites States of America
WFSF	World Futures Studies Federation

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1. INTRODUCTION – SETTING THE CONTEXT

1.1 The spirit of the study

Today, half of the world's population lives in cities and the number of urban dwellers is constantly growing. Undeniably, the 21st century is being recognised as the 'century of cities'. Cities are placed centre stage in the modern world; the world that is shaped by rapid technological developments, expanding globalisation, profound cultural shifts and new economic trends. In this very complex and well connected world, cities function as the nucleus of human activity, frontiers of progress and engines of economic growth. By many, cities are seen as a key factor that will shape the future of the world. There is, therefore, an ongoing endeavour to ensure their prosperous and sustainable development alongside the provision of good living conditions for all their inhabitants.

At present, cities struggle with a range of problems. Most of these difficulties are the result of an inability to cope effectively with the consequences of both global and local change and the extreme complexity of urban and regional systems. It is ever more being recognised that urban planners and policy-makers lack an effective future-oriented approach that would enable them to anticipate future transformations, efficiently prepare for ensuing consequences and tackle the inherent complexity. There is a growing need for planners and decision-makers to become 'visionary' in: building community support and creating alliances; taking a long-term view and cultivating best practice; embracing both diversity and authenticity; committing to social equity and community pride; and in planning for liveability and espousing sustainability.

This challenge can be addressed by adopting and further developing approaches and methods of the Futures Studies field. Over the past five decades, the Futures Studies has generated an extensive body of knowledge on trends and forces creating the future. The field embraces a whole range of methods and techniques that enable the exploration of what lies ahead in a systematic, rigorous and holistic way. But, even more so, Futures Studies offers a different way of thinking and acting about the future. This research has been undertaken in order to address the existing need for an effective

future-oriented approach in city planning and to explore how futures thinking and methodologies can be used to fulfil this need.

1.1.1 21st century cities

In 1900, only 14% of people lived in the urban areas. As a result of intensive urbanisation processes in the 20th century, the population of cities rose to 48% of global population in 2003 and it is expected that in 2030 it will reach 61% (UN 2004:1). It is also predicted that almost all of the future population growth will take place in the urban areas, mostly in developing countries (UN 2002). It is virtually certain that the future of civilisation lies predominantly in cities, but what the cities of the future will be like remains the central question.

Cities today are extremely dynamic and complex multidimensional systems that are globally connected as a result of globalisation and the progress of communication technologies. Change, of course, has been the characteristic of cities since their inception. Traditionally, it is observed through the related processes of accretion, addition and demolition (Hall 1998). Today, changes occur faster and are often simultaneous in nature. They are brought about by internal and external forces (OECD 1994), of which the external drivers, such as globalisation, technological progress, economic and social trends, are often more powerful and difficult to address as cities have little control over them. Urban environments are formed by a number of interacting dimensions: physical, social, cultural, political and economic, each of which consists of countless interconnected elements. Interactions and relations between dimensions and their parts make cities extremely complex. In addition, complexity is growing as the pace of change accelerates.

Over recent decades, more than ever, cities have become globally connected. The information revolution, preceded by the advancement of communications and transport technologies, enabled global networking based on the exchange of goods, services, information and labour. Consequently, "cities worldwide are increasingly networked in complex systems of global interaction and global interdependence" (Hall and Pfeiffer 2000:7). As a result of globalisation, decisions and actions occurring in one part of the world have important consequences for societies and individuals in other locations.

This increases complexity even further and makes it even more difficult for urban planners and policy makers to understand the internal and external interdependencies of urban systems.

Contemporary cities struggle with a whole range of problems that are predominantly the result of an inability to deal effectively with the consequences of recent trends and events. The main problematic areas include economic growth, urban finance, social development, environmental quality, and governance. Continuous structural changes in manufacturing and services sectors combined with global competition put major strains on the economies of countries and cities. Many urban regions struggle with high sectoral unemployment and lack of financial resources for the development of necessary infrastructure and for tackling social and environmental difficulties. The lack of sufficient financial resources is usually a result of a combination of a weak economy and inappropriate management of existing resources. Lack of sufficient funds is an important limitation for the development of necessary infrastructure, such as transport and communication facilities, environmental protection services and social amenities.

One of the most severe urban problems is social exclusion, which is related to income distribution. It manifests itself through, amongst others, poverty, crime and drug abuse. A problematic aspect of social development in many cities is also the integration of immigrants representing different races, cultures, and religions. In the long-term, the aggravation of social problems can lead to public unrest and the break-down of law and order. Many cities struggle also with deterioration of the natural environment at the local and global scale. This is visible in various forms of pollution, the depletion of natural resources and the degradation of the natural landscape. The environmental degradation has long-lasting consequences for the quality of life of people in cities and rural areas. Cities are seen as the key factor in improving the quality of the natural environment.

The economic, social, and environmental problems characteristics for cities are a difficult challenge for their leaders and administrators, be they at local, regional or national level. On one side, the demands placed on cities and their governments are increasing; on the other, many urban regions are faced by the failure of local democracy, citizens' apathy and conflicting political interests. Present urban management approaches and mechanisms often fail to deal effectively with these

challenges (OECD *op cit*; Hall and Pfeiffer *op cit*; Ratcliffe 2001). It is increasingly becoming apparent that new approaches and mechanisms are needed to tackle these problems in a more effective and comprehensive manner.

1.1.2 Contemporary urban planning and its challenges

Consider the following statement:

> *"All that is certain about the future of cities is that they will change, rapidly, profoundly, and unpredictably. Urban planners and policy-makers face a complicated and difficult task. They will be required to make sharper choices, and, because, the future is unknown, to make decisions and design programmes based on incomplete information, in macroeconomic conditions that are likely to make resources scarce. But the challenges must be met, because if urban problems persist or worsen, they will threaten the growth of economies and the stability of societies." (OECD 1994:158)*

Thus, a key function of urban planning is to make decisions in the present that will direct future activities in a way that they will create cities that are economically thriving, culturally vibrant, socially cohesive, clean, green and safe, and in which all citizens are able to live happy and productive lives (Hall and Pfeiffer 2000; Myers 2001). The intensity of urban problems in many cities has shown that existing planning processes fail to effectively fulfil their primary purpose. There are a number of reasons that could be listed trying to explain why this is so.

- **Change, complexity and uncertainty.** Cities today are characterised by the high pace of change and growing complexity. The mixture of both increases uncertainty of the future consequences of the decisions being taken at present. The planning profession lacks adequate methods that would help to decrease such uncertainty.
- **Lack of an integrated approach to the urban system**. There has been a tendency to separate the physical elements from the social, economic, and environmental dimensions, instead of treating all these aspects in an integrated manner (Gaffikin and Morrisey 1999). Looking at different urban components individually often leads to neglecting important connections and interdependencies between them, which results in ineffective policies and decisions.

- **Short-term orientation of planning.** The search for political relevance, necessary to respond to the present needs and the crisis on the ground, as well as "restrictions imposed by social science that directs attention to only where data exist – in the past, not the future" (APAJ 2001:366) have shifted the urban planning profession towards short-term approaches and solutions (Isserman 1985, APAJ *op cit*, Ratcliffe 2002a).
- **Obsolescence of '*predict and provide*' model**. Traditional planning systems are based on the model that could be described as '*predict and provide*'. Decisions are made using evidence that is usually collected through observation of historical trends and their subsequent projection into the future. This type of approach leads to reinforcement of the present state and makes it more difficult to consider alternative options (Serra 2001, Krawczyk and Ratcliffe 2004).
- **Main focus on the physical form**. For many years planning has been predominantly concentrated on shaping the physical form of cities and the provision of necessary services. Planning agencies became actively involved in budgeting, land development, social service funding, management of various programs and projects, and other short-term activities, neglecting its visionary role (Isserman *op cit*).
- **Limited co-operation of stakeholders.** Deciding about the future of the city is not an exclusive function of local governments, but it requires the involvement of many various stakeholders, who often hold contrary views and represent conflicting interests (Myers *op cit*). It is being increasingly recognised that in order to ensure sustainable and prosperous development of urban territories, urban actors need to communicate, collaborate and engage in concerted action.
- **Lack of confidence in the planning of the future.** It could be also argued that the planning profession lacks confidence in its ability to think meaningfully about the future and to influence change (Isserman *op cit*). Or as Cole (2001:373) claimed planners are "institutionally caged in a cautious and conservative role and they do not wish to appear too off-the-wall to policymakers who want concrete answers".

Considering the state of cities today and the limitations of the existing urban planning processes, it is clear that in order to ensure the future prosperity and sustainability of urban environments there is a need for a major shift in the way of thinking and acting about the future of cities, a shift from the traditional mind-set, such as that of the OECD (1994:158), to a more imaginative and innovative future-oriented approach. A

fresh future-oriented methodology is required to promote and facilitate this shift. Such a new approach should enforce an understanding that the future can actually be shaped and thus enable communities to envision their desired future, building upon common values and wishes. It should assist professionals in: understanding the complexity of urban systems and the global context within which they function; anticipating local and global change and its short, medium and long-term consequences; considering cities as entities and tackle their problems in an integrated manner; creating images of possible and probable alternative futures; understanding the needs and values of communities; and developing mechanisms that would facilitate collaboration of all stake-holders in shaping the future. Such an approach should also enable community and professionals to work together in order to achieve the envisioned preferred future state.

1.1.3 Futures thinking concept

Thinking about the future has been present in human history virtually from its beginning. What is important today, for all areas of life, is a growing realisation that the future can be explored and its events anticipated. Even more significant is the recognition that the future is not predetermined and human actions can influence its course (Ratcliffe 2002a). These realisations underline development of the Futures Studies field – a rigorous discipline, the purposes of which are to "discover or invent, examine and evaluate, and propose possible, probable and preferable futures" (Bell 2003:73).

The capability to explore the future has come to the fore in times of increasing levels of uncertainty due to the accelerating pace of change and growing complexity. Systematic exploration of the future can help all decision makers, including corporate managers, urban planners or government ministers, to: identify possibilities, which lie ahead, be they positive or negative, as they may consequently indicate new opportunities or hold warnings; determine areas, in which the future can be shaped, as well as the areas that are very difficult to influence as decision-makers have little control over them; and evaluate plans, define ways in which these plans can be realised and anticipate their likely outcomes (Coates 1996). Examination of the future also helps to establish what are the main continuities and major trends and to understand

how change occurs. It helps to identify the critical problems, the new factors that will gain importance and the sources of motivation and hope (Ratcliffe 2002a).

An understanding of how the future can unfold, however important, is only a part of the process for creating desired futures. The images of these desired futures should be developed building upon the values and wishes of people, whom they concern, and they should guide the actions of all actors responsible for policy and decision-making.

The Futures Studies field has developed a whole range of methods and techniques to enable the study of the future in a systematic, rigorous and holistic manner. Futures concepts, methods and techniques have been extensively applied in many areas, such as business, military, environmental studies, education, health and national and regional developmental studies. Over the past 15 years, the use of futures methods has begun to influence urban planning processes. A number of cities, such as Lyon, Barcelona, Bilbao, Vancouver, have effectively been applying futures methods in order to guide their development. By doing so, these cities have proved that there is a need for change in a way of thinking about the future of cities and a requirement for a new innovative future-oriented methodology that could assist urban planners and decision-makers.

1.2 Research questions, aim and objectives

There are two main research questions posed in this thesis.

1. "What is the role of futures methods in city planning processes?"
2. "In what ways the application of futures thinking and methodologies can improve these processes?"

Through a careful consideration of these questions, the main aim of this work was formulated: the development of a future-oriented methodology that would encourage and facilitate a shift in the way of thinking and acting about the future of cities. Such a methodology should assist communities, urban planners and decision-makers in: dealing with the uncertainty and complexity of change; gaining an understanding of community needs and values; envisioning the preferred future state; and encouraging collaboration between all stakeholders in order to realise the desirable future.

In order to achieve the aim of the study a set of detailed objectives was developed. These are:

- in-depth review of Futures Studies in regard to its origins, purposes, philosophical and epistemological foundations, and methods;
- exploration of how the urban planning approaches towards the future have evolved;
- investigation of cases, in which future-oriented methodologies were employed in urban planning processes;
- examination of how the future is constructed in existing urban planning processes in Dublin, including in-depth analysis of attitudes towards the future, the methods, the types and sources of information collected, the actors involved and examples of future-oriented thinking and actions;
- critical examination of urban planning projects carried out in Dublin, in which future-oriented methods were employed;
- development of the future-oriented methodology for use in the urban planning processes.

1.3 Research methodology – general issues

In trying to assess the epistemological foundations of this work the author has encountered certain difficulties. As this study deals with ways of thinking, opinions and perceptions, and the future, the choice of an overall qualitative approach was clearly most suitable (discussed in detail in Section 4.2). However, the selection of an appropriate qualitative strategy of inquiry was less obvious. After a careful consideration of various approaches, it was recognised that the general spirit of the research has ethnomethodological roots, and the case study was seen as the most suitable strategy of inquiry. The choice of case study as the research strategy involved also the consideration of the concept of methodological triangulation and crystallisation. These concepts are discussed in detail in Chapter 4, together with the specific research methods used to fulfil the individual research objectives.

Ethnomethodology seeks "to treat practical activities, practical circumstances, and practical sociological reasoning as topics of empirical study" (Garfinkel 1984:1). In sociological terms, ethnomethodological studies examine the integral 'methods' used

by the members of society for accomplishing everyday reality. Garfinkel (1952), one of the main ethnomethodology advocates, recognised that social order is built from the socially contingent, practical reasoning of ordinary members of society. In his view, the members through use of ordinary linguistic and communicational skills produce the accountable features of everyday life. This approach strongly emphasises the role of members of society in the production of social order (Garfinkel *op cit.*, Gubrium and Holstein 2000). In the context of this thesis, the ethnomethodological approach is interpreted as follows: this study seeks to examine the methods used by actors and stakeholders involved in urban planning processes for the creation of the future of a city. The research attempts to uncover the practical activities, circumstances and reasoning that underlie future-oriented planning and decision-making.

The case study was chosen as most appropriate research strategy for this thesis, as the research questions posed in the study required an in-depth comprehensive examination of the ways of thinking about and constructing the future in city planning processes. Case study approach allows focusing the investigation on just one instance. Concentrating on one case, rather than many, enables an in-depth analysis of that case. This means that some insights may be gained that would have wider implications, but which would not be likely uncovered in the study looking at a large number of instances, such as a survey study. Using the case study approach is conducive to a holistic investigation. An in-depth holistic analysis helps to reveal various relationship and processes characteristic of system, and to develop an understanding of complex situations or conditions. Such a methodology enables to reveal not only the outcomes, but also the underlying reasons (Denscombe 2003).

An important issue in application of this approach is the choice of a case to be examined. Stake (2003) distinguishes three types of case study that can be described as related to the reasons behind their choice – *intrinsic*, *instrumental* and *collective*. The *intrinsic case study* is undertaken primarily because a researcher wants a better understanding of a given case. In this type of study, the case is not chosen because it represents other cases or because it illustrates a particular issue or a problem, but because of an intrinsic interest in this particular case. The *instrumental case study* is when a particular case is examined to provide insight or to redraw a generalisation. The case is of secondary interest, and its main role is to facilitate the understanding of some 'other issue'. The choice of case is made to make progress in understanding of

this 'other issue'. The *collective case study* is when a researcher has even less intrinsic interest in one particular case, and decides to examine a number of cases at once in order to investigate a phenomenon, general condition or a population. In this type of study the cases are chosen as it is believed that their examination will lead to a better understanding of larger group of instances (*ibid*).

In the case of this thesis, the choice of the case study city was limited by the requirements of the doctoral programme, on which the researcher was enrolled. The researcher was appointed to conduct a particular research project[1] with a specified topic and geographical location (Dublin). And, although, the research project has evolved over time, Dublin was still seen as the most suitable case study city. Considering the types of case study distinguished by Stake (*op cit.*), the case of Dublin, investigated in this thesis, can be most closely described as the instrumental case study, as it attempts to provide insights for a more general understanding of how the future is created in urban planning processes, what is the role of futures methods in these processes, and in which way futures methods can be beneficial to such processes. In addition, it is important to emphasise that the author had also a great personal interest in this particular case.

Another strategy of inquiry that was considered for use in this study was action research. Action research is mainly used to deal with practical aspects – issues, problems, concerns and needs that arise from an activity in 'the real world'. It is intended to both develop an understanding of various issues related to the practice and instigate change in the way things are done. One of its defining characteristic is "its commitment to a process of research in which the application of findings and an evaluation of their impact on practice become part of a cycle of research" (Denscombe 2003:73). Action research also aims to involve people affected by the research so that they would become collaborators in the research rather than just its subject. Although this study is concerned with practical aspects of future-oriented planning and aims to inspire a change in the way the future of cities is being thought of and planned, the scope of the study did not allow for the evaluation and, consequently, the creation of 'a cycle of research' and neither it provided a capacity for an active collaboration of

[1] The original title of the research project was: "Dublin City Foresight: A feasibility study to establish an urban and regional Foresight Laboratory for the city of Dublin and the region."

practitioners, such as planners and decision-makers. For these reasons, action research was not employed as the main research strategy in this study.

1.4 The outline of the thesis

First, the introductory chapter sets the context of the study. It begins with the presentation of the situation and role of contemporary cities and the challenges to urban planning arising from the changing global and local context. It introduces the concept of futures thinking and its possible role in the planning processes. Then, the two main research questions, the aim and objectives are presented. The section on methodological foundations explains the epistemological roots of the research. It discusses its relation to ethnomethodology and the choice of a case study as an overall strategy of inquiry. The last part includes the outline of the study and delimitations of the scope.

In Chapter 2, which is based predominantly on the documentary research, the notion of futures thinking is explored. Initially, the main concepts upon which the futures thinking was developed, including time and its sequences past, present and the future, change and discontinuity, complexity and uncertainty, are discussed. Then, the Futures Studies field is presented in regard to its purposes and main characteristics. Also, the issues of values and ethics in the Futures Studies are explored. The next section presents the evolution of the Futures Studies field. It discusses different strands that have developed as a part of the field, such as social forecasting, futures in policy development, modelling and 'globalistically'-oriented studies, operational research and futures 'think-tanks', futures thinking in national planning and the Foresight activities conducted by the European Commission. The next section introduces the main terminology used in the field and different classification of futures methods and techniques. Furthermore, the issues of methodological rigour and data reliability are examined. In the last part of the chapter two, major methodological approaches – Foresight and Prospective – are discussed and main futures methods and techniques are reviewed.

In Chapter 3, also based on documentary research, urban planning's approach towards the future is examined. At the outset, it introduces various definitions of planning and urban planning. Then, an historical view of how the urban planning field and its

approach towards the future evolved over time is given. Among a number of different issues explored are: the way of thinking about the future; attitudes towards change and complexity; the way of perceiving the city and its various dimensions; methodologies and techniques used for the exploration of the future; and people and institutions involved in the planning processes. In the next section, futures thinking is compared with urban planning in regard to their general concepts, ways of approaching the future and methodologies. As a final point, the main deficiencies of current planning approach towards the future are identified and the ways in which the futures methods could aid urban planning presented.

In Chapter 4, the methodology used in the study is presented. The chapter aims to provide an overview of the way in which the research problem was approached. On the outset, the overall methodological framework is outlined. Issues, such as qualitative character of the study, ethnomethodological roots, case study as the main research strategy and concept of crystallisation, are considered in detail. Then, the individual methods applied in this research are presented and discussed. Aspects, such justification of their choice, procedures, sampling and possible limitations, are considered. Finally, methods used for data presentation and analysis are reviewed.

In Chapter 5, based on the primary data, the results of the examination of the approach towards the future practised in the urban planning process in Dublin are presented. The chapter is divided into two main parts. The first part discusses the results of the investigation of the planning process in regard to the way in which the future of Dublin is conceived and constructed. It starts with the exploration of the general attitudes of decision-makers towards the future. Then, a range of factors involved in future-oriented decision-making and planning are discussed. Among them are: governance, planning issues, information base, methods, collaboration between the actors and behavioural and cultural factors. In the next section, the actors involved in urban planning processes in Dublin are identified. Among them are individuals, organisations and agencies, interests groups and factors. Additionally, the key stakeholders and decision-makers, who perform future-oriented thinking and planning, are detected. The next section discusses various examples of future-oriented thinking and action. The final section of the first part explores a range of factors that have been identified as encouraging or impeding future-oriented thinking and planning.

The second part of the chapter comprises of an analysis of five urban planning projects, in which futures methods were employed. These include: "Dublin 2020 Vision" (the development of a preferred future vision for the city by the Dublin Chamber of Commerce), "Dublin – A City of Possibilities 2002 – 2012" (the development of the social-economic strategy for the future development of Dublin City), "Development of community indicators in Ballymun" (a visioning exercise aiming to develop a range of community indicators), "Mobile and accessible Dublin" (a study undertaken to test the first version of the developed methodology), and "Dublin – Belfast economic corridor" (a scenario exercise aiming to create a set of future scenarios for the Dublin – Belfast economic corridor). Each of these projects is examined in regard to its origins, the process and methodology applied, participation issues and outcomes and outputs.

In Chapter 6, the author presents the summary of the research, conclusions and recommendations arising from the research. The chapter starts with the review of the research objectives and the way they were addressed in this thesis. Then, the main conclusions are discussed. The final part of the chapter includes three main parts. The first part consists of the presentation of the general recommendations for the transformation of the way of thinking and acting about the future of cities. The factors related to this transformation are discussed in three groups: 'enabling factors', 'encouraging factors' and 'facilitating elements'. Next, the recommendations specific for planning in Dublin are presented. And finally, the recommendations for the development of a Prospective methodology model are listed. The last section of this chapter includes the proposed Prospective model adapted and developed further by the author. The model is discussed under three headings: the process, participation and interplay of generations. The last chapter (Chapter 7) concludes the thesis and presents a set of suggestions for areas of future research.

2. FUTURES THINKING

2.1 Introduction

Since the beginning of civilisation the future was a subject of human thought and concern. Thinking about the future was performed in many different forms – divination, fortune-telling, prediction, anticipation, forecasts and the like. Over millennia, many have tried to predict future events and anticipate their outcomes, in logical, intuitive or irrational ways. In the second half of the 20th century thinking about the future grew into a fully developed discipline known as Futures Studies.

This chapter consists of four main parts. The first part aims to build an understanding of the main concepts underlying futures thinking, such as time, change and complexity, and uncertainty. In the second part, Futures Studies are examined in respect to their purpose, main characteristics and issue of values and ethics in their context. The third part reviews the evolution of the Futures Studies field over the last fifty years. Various strands developed within the field, such as social forecasting, policy development, globally-oriented studies, operational research, national planning and futures thinking in Europe, are discussed. In the last part, the methodological issues are explored. This section attempts to clarify the terminology used in the Futures Studies, review different methods typologies, examine issues of data reliability and methodological rigour, discuss the main futures methodologies (such as Prospective and Foresight) and consider a range of futures methods and techniques.

2.2 Concepts underlying futures thinking

The future is an important symbol for humanity. It gives significance and value to the past and assigns meaning to the present (McHale 1969). *Futures thinking* can be described as "a need, a choice, a way of thinking of human beings" (Masini 1993:2), and a way of perceiving the world, the society and the relationship between people and nature (Botkin 1979). A number of reasons can be found to justify why the futures thinking is important. Futures thinking is described as:

> "... both indispensable to and consequential for (1) interpreting the past, (2) understanding the present, (3) deciding and acting in the present, and (4) balancing the use of present and future resources." (Bell 2003:90)

Futures thinking responds to a need to prepare for future change and to tackle uncertainty attached to it. This is especially important in current times of great, rapid and interrelated change (Masini 1993). As Gaston Berger (1957) put it: "the faster the car, the further the headlights must go". According to Godet (1979) futures thinking is also a choice whether to think about the future or not; whether to consider the consequences of present actions and to reflect upon how assumptions about the future can influence decisions taken at present, or whether just simply focus on the past.

In order to gain a greater understanding of futures thinking, and consequently the Futures Studies field, it is necessary to explore the key notions and issues underlying it: time and its sequences, past, present and future; change; complexity and uncertainty.

2.2.1 Time: past, present and future

Every known society recognises notions of time and its sequences– the past, present and future. The perception of time varies between different nations and philosophies. Inayatullah (2004a) distinguishes a number of metaphors used to describe time: the million-year time of the universe, mystical time and Occidental time. Time can be described as physical, biological, psychological and social (Bell 2003). It can be discussed in terms of its measurement and features. Here the most important aspects of time from the futures thinking point of view: time sequences: past, present and future, and notions of 'extended present' and timeframes.

The past, present and future. The notions of past, present and future are central to human perception of time. There are two main theories describing time in terms of sequential order of events. The first theory, called the 'A-series' (Fig. 2.1(a)), is concerned with the past-present-future perspective of time. According to this conception, any event that actually takes place was a future event before it happened, then as it happens is a present event, and then it becomes a past event (Gell 1992). The second theory, called the 'B-series' (Fig. 2.1(b)) emphasises the before-after perspective of time. According to this idea, events are arranged as being before one or

after another in time and this order does not change (Bell 2003). An ongoing dispute about which theory is scientifically more valid can be settled by Adam (1988), who considers both models as equally valid and objective perceptions of time.

From the futures thinking point of view, the relationship between past, present and future is of great importance. The past holds connotations to history, experience, reminiscence, identity and individual accomplishment. The present refers to here and now, the passing moment, the moment of awareness. The future involves human hopes, fears, plans, undertakings, aims and aspirations (Slaughter 1997). This relationship between past, present and future can be easily translated into urban context. The past is visible in the fabric of a city, its layout, social structure, economic profile, and regional, national and international position. The present can be described as the place where the past trends and decisions that shaped the urban entity and the policies and decisions that will shape its future meet. The future holds the dreams, aspirations, hopes, wishes, and fears of planners, politicians, decision-makers and societies.

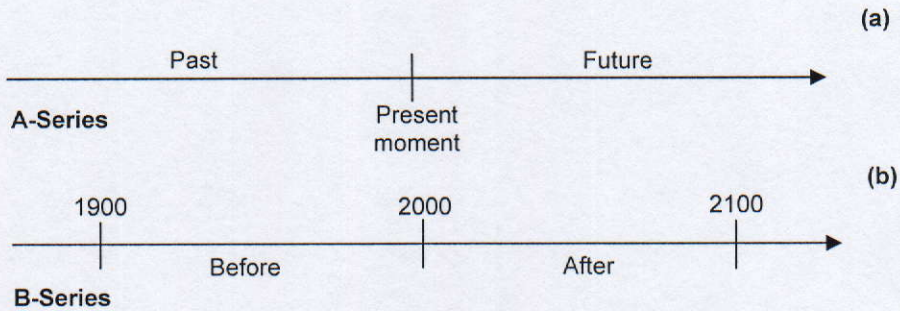

Fig. 2.1 Perceptions of time: A-Series (a) and B-series (b) (McTaggart 1908)

The past. The past is used by people to guide their present actions and to assist them in forming the images of the future (Bell 2003). The understanding of the past, the values, motives and circumstances influencing human actions helps to comprehend how the present is constructed and how the future can unfold. Although not all people recognise importance of the past, futurists believe that to understand the future, firstly one needs to understand the past (Inayatullah 2004a).

The present. The present is a transitory state, constructed by the interpretation of the past experience and the anticipation of possible futures. The present holds the potential for future change and development. This potential can be explored in order to discern

the possible future opportunities and challenges and to inform decision-makers about them. Therefore, futures thinking can be seen as a way to orientate human beings in the present (Bell 2003). The need for orientation arises as "the rapidity of change results in confusion about what is happening around us in the present and the immediate past" (Bell 2003:89).

The notion of 'extended' present. The present, in the physical sense, is a very brief moment, a fraction of a second. People usually perceive the present as one that extends to immediate past and immediate future. Many futurists, such as Husserl (1966), Neisser (1976), Slaughter (1997), Boulding (1978), and Bell (2003), raised the issue of 'extended present'. Husserl (1966) proposed the notion of 'extended present' as early as 1887. In his view the 'extended present', besides the present moment, also includes the memories of immediate past (retention) and the anticipation of the immediate future (protention). Neisser (1976) suggested the idea of 'perceptual cycle' – a process comprising three interacting parts: reminiscence of the immediate past, perception of the immediate present and imagination of the immediate future. Elise Boulding (1978) proposed the present of 200-year life span, which stretches 100 years back and 100 years forward. Such a length of 'extended present' can be valuable because people are deeply connected to it through traditions, institutions, values and families (Slaughter *op cit*). However, the question needs to be asked whether such a long duration of extended present is feasible. Slaughter (1997) argues that 'extended present' is needed as human beings are deeply connected with the past and present. The concept of 'extended present' should be used "for the purpose of obtaining a grasp of our own context in time, our own particular span of history" (Slaughter 1997:8), and such a notion of the present should recognise that people are: "first, rooted in the past; second, responsible for creating our near-term futures; and third, responsible for protecting future generations" (*ibid*).

The concept of 'extended present' has vital implications for urban planning and decision-making. Although the duration of 'extended present' can vary for different events and processes, it is important to establish what is the length of the present and when the future starts in regard to these events and processes. A clear distinction between the present and the future can help to prioritise plans and to develop adequate timeframes by which present and future actions can be organised (Bell 2003).

The future. Although the concepts of the past and the present are fundamental for futures thinking, the future constitutes its main focus, as it is the only area over which people have influence (Masini 1993). Futures thinking has arisen from the assumption that the future is not predetermined, but it is open (Prigogine and Stengers 1984) and that there is not one future, but many different possible futures (Berger 1957, Jouvenel 1967). Futurists look at the future in terms of 'possible' and 'preferable'. On the basis of data and knowledge images of 'possible' futures can be developed. Among 'possible' futures some are more 'probable' than others and within the 'probable' futures, the most probable are the 'plausible' ones. 'Preferable' or 'desirable' futures are the ones that are preferred by individuals and societies as they incorporate their values and wishes (Masini 1993).

Another interesting aspect of the future is the human attitude towards it. Godet (2001) distinguished five basic attitudes towards the future, advising that decision-makers and planners should try to adopt the fifth mind-set:

1. the passive ostrich, who accepts change;
2. the reactive fire-fighter, who waits for the alarm to act;
3. the preactive insurer, who prepares for the predictable changes because an ounce of prevention is worth a pound of cure;
4. the proactive plotter, who acts to bring about the desirable change;
5. the anticipative actor, who nicely merges all of the above but adopts an anticipative attitude; in other words a mixture of the reactive, preactive and proactive attitudes.

Timeframes. The last aspect related to the concept of time that is discussed here are timeframes. People develop timeframes to orientate their thinking and actions in time, mainly in regard to the future. Timeframes have different lengths for different activities. For example, in national, regional or urban planning the five-year period seems to be the main time span in most countries. It is usually related to the length of the period between political elections (Masini 1993). In the futures thinking there are three main timeframes distinguished: short-term (from the present to five years), medium-term (from five to twenty years) and long-term (from twenty to fifty years) (*ibid*).

Futures thinking usually has a long-term orientation, recognising that the consequences of human actions can last as long as millennia. Slaughter (1997) argues that short-term

thinking is focused only on the immediate consequences of decisions and actions, and at most times, it fails to recognise their long-term implications. Short-term thinking often leads to development of policies and decision-making that tackles the immediate problems efficiently, but can have negative consequences in the long-term perspective. For example, the use of nuclear fuels for energy production serves the immediate purpose of meeting increasing demands for electricity, but it also creates a number of medium and long-term consequences, such as health hazards for many generations and the problem of nuclear waste storage. In order to build positive futures it is necessary to consider the consequences of human actions in the short, medium and long-term simultaneously (Slaughter 1997).

There are two other important problems related to timeframes. Decision-makers, who are responsible for one matter, often operate in different timeframes which do not correlate with each other. This creates grounds for disagreement and can cause considerable delays in taking decisions, preparing and implementing plans. Another problem can result from the inadequacy of timeframes used for specific activities - usually they are too short (Slaughter 1997). Slaughter (*op cit*) argues that timeframes should be extended for policy making, economics and education. He also postulates "while in general, some activities need to be matched with longer timeframes, the more important shift is toward the conscious use of timeframes themselves" (*ibid*:18).

2.2.2 Change

Change is an act or result of something becoming different. Change, like time, is an intrinsic part of life, and it is seen as a norm. What is a feature of change today is its rapidity characterised by an accelerating pace, simultaneity and interconnectedness. The increasing speed and complexity of change have significant consequences for the human ability to understand the past and present and to anticipate and predict the future. Multiple interconnected changes that occur at increasingly rapid speed are more difficult to study and elucidate. It could be described as:

> "Without rapid social change, our cognitive maps of the past and present work reasonably well for the future, since the future is similar to the past – or at least is similar enough that the maps, perhaps with minor adjustments, still get us where we want to go. But with rapid change, our cognitive maps of the past and present

> may be so out of date that they no longer are accurate or even recognisable representations of the future as it becomes present reality." (Jouvenel 1967:10)

Human ability to anticipate the future is mainly based on the observation and understanding of the past and the present. In order to create their "cognitive maps of the past and present" people study the patterns of historical change and the values, motives and circumstances influencing human behaviour. One of the fields looking at historical patterns of change is macrohistory. Inayatullah (2004) explains the role of macrohistory[2] in the study of the future. The main purpose of macrohistory is searching for deeper patterns of change and gaining an understanding of different stages of history. Understanding history helps to gain a comprehension of the future and allows an insight into the structure of the future. Patterns of change are an important contribution of macrohistory to futures thinking.

Models of change. Models of change represent human perception of the processes of change. Their purpose is to explain the structure of transformations and evolutions. There are three main types of models: linear, cyclical and dialectical (Groff 2004). In the linear models (Fig. 2.2) illustrated below, change is cumulative, non-repetitive, developmental, and usually permanent.

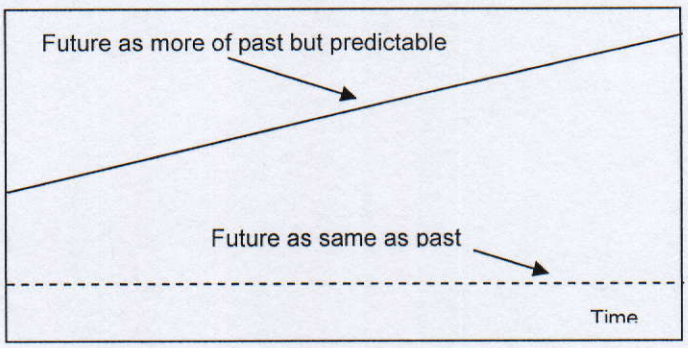

Fig. 2.2 Model of linear change (Groff 2004)

Cyclical models (Fig. 2.3) describe change as cyclical and repetitive. The dialectical model (Fig. 2.4) combines elements of both cyclical and linear change. In the dialectical model the change is spiral – it reoccurs in short-term, but it has long-term cumulative direction (Van der Veen 2002).

[2] Inayatullah (2004:1) defines macrohistory as "the study of the histories of social systems, along separate trajectories, through space and time, in search of patterns, and even laws of social change."

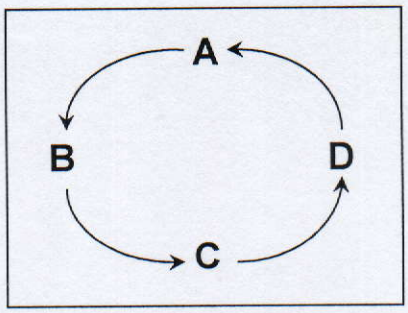

Fig. 2.3 Model of cyclical change (Groff 2004)

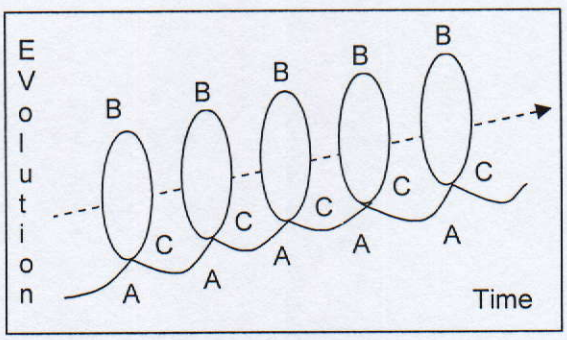

Fig. 2.4 Model of dialectical change (Groff 2004)

A whole range of models of change is discussed in Appendix 1, which is mainly based on Linda Groff's (2004) compilation of wide knowledge on that topic. There are a number of important aspects related to the models of change that should be remembered. Models can be used to explain the processes of evolution for a single object or phenomenon or, more likely, entire systems. However, there is no one model that can be used to illustrate all occurring changes (*ibid*). Different attitudes, beliefs and ways of thinking characteristic for different cultures can be incorporated in models, for example, Eastern thinking favours cyclical models, while Western philosophy prefers linear ones (Inayatullah 2004). The modern models of change need to embrace the rapidity and complexity of change and to incorporate growing uncertainty and unpredictability that can manifest itself through sudden breakdowns, breakthroughs to another level and emergence of chaos (Groff *op cit*).

Trends and discontinuity. Trends, another important aspect of the nature of change within futures thinking, can be defined as regular changes of situation over time. Trends give direction to the process of transformation. For many years, building on the assumption that the future resembles the past, the extrapolation of past and present trends seemed to be the main basis of forward planning. Although, trends currently

remain primary source of 'knowledge' about the future, it is being increasingly recognised that the construction of future images cannot be solely based on the extrapolation of existing trends. The increasing complexity and uncertainty of change creates a situation in which sudden breaks in trends and an unexpected change of their direction are quite frequent. Discontinuity has become another aspect of change.

The concept of discontinuity was developed and extensively discussed by Drucker (1969). It can be defined as a complete rupture from one situation to another (McHale 1969). Drucker (*op cit*) has identified four areas of discontinuity: technological, economic, political and in relation to knowledge. *Technological discontinuity* is caused by the emergence of new technologies. For example, new discoveries, such as radio, television, and computer, led to total transformations of society and current ways of living (Drucker 1969). *Economic discontinuity* emerges from the fact that national markets became so tightly interconnected that they now form one global market. Any changes occurring in the economy of one country can have consequences for the economies of other nations. For instance, the crash of the New York Stock Exchange in 1987 had multiple global consequences, as also had the collapse of the Soviet Union as an economic power (Masini 1993).

In 1969, Drucker saw the main source of *political discontinuity* in political institutions. In recent years, dramatic political transformations are a result of the change of the global power arrangement (fall of the Iron Curtain and the collapse of Soviet Union as the main US rival), the emergence of strong international terrorism (the events of September 11th 2001) and increasing tensions between Muslim countries and the West (war in Iraq). Political discontinuity takes place also in many countries at the national level. Great changes are especially visible in the young democracies of Eastern Europe and in many developing nations. Recent examples are the controversy around the presidential elections in Ukraine (November 2004) that almost resulted in the break-up of the country and the troubles in Sudan and Ivory Coast. *Discontinuity in relation to knowledge* arises from the fact that knowledge has become a new form of capital (human capital) and a key resource for the economy. The transformation of capital can lead to unprecedented discontinuities.

The concepts of change, trends and discontinuities are important for the exploration of possible futures. Futurists aim to anticipate change and its consequences, identify the

existing and future trends and to detect possible breakdowns and changes in the direction in trends. However, it is not enough to just identify trends and to anticipate possible consequences of transformations, but it is also necessary to understand the importance of events and trends in respect to the short, medium and long-term future. Certain events, although very important at the time of occurrence, can result in being viewed as only 'mere perturbations' in the process of evolution. Others, sometimes barely noticeable, prepare a way for major structural transformations that change the direction of societal development. Recognition of the level of importance of different events is a great challenge for futurists. While imagining and creating desirable futures it is also necessary to be aware of the structural constraints and structural possibilities that create the context for human actions (Goux-de-Baudiment 2004 pers. comm.). The future is open within limits (Prigogine and Stengers 1984).

2.2.3 Complexity and uncertainty

In recent years complexity has become one of the main characteristics of contemporary world. An increased interest in complexity and related issues, led to the development of *complexity theory*, which incorporates elements of chaos theory, non-linear dynamics, systems thinking, complex adaptive systems, self-organising systems, fuzzy logic, learning organisations and others. In this thesis, the concept of complexity will be discussed in relation to futures thinking.

One of the authors, who considered the concept of complexity in relation to futures thinking, was Churchman (1977). He raised three main questions about complexity from the ontological, epistemological and ethical perspective.

- Does complexity exist in the real world?
- If it does exist and the world is complex, then what is the theory of knowledge that would enable people to know it and understand it?
- What is the value of complexity for society; is it positive, negative or neither? (Churchman 1977)

Although Churchman does not attempt to answer these questions, they are an important contribution to an understanding of the complexity issue (Masini 1993) and many scholars have discussed them. Lo Presti (1996) claims that complexity is not a feature of future events *per se* but that it is a characteristic of the models of knowledge

that are used to approach and anticipate the future. Shackley *et al* (1996) argue that complexity is inherent in the character of the interactions between organisations, experts and the public rather than a feature of more material and 'reified' versions of reality. The promoters of the complexity concept, such as Waldrop (1992) and Lewin (1999), claim that many aspects of the physical world have an inherent complexity. These aspects cannot be explained by the simplification of reality through identification of the key attributes of the linear cause-effect processes that are often unidimensional and deterministic (Shackley *et al* 1996).

Churchman (1977) discusses complexity in regard to the following aspects: relationship between complexity and simplicity; dynamic character of complexity; uncertainty; and future generations. Assuming that to know something people have to know it in a simple form, he differentiated *between complexity and simplicity*. In the classic view, the knowledge and understanding is acquired through the simplification of complex phenomena, as only the simple form can be widely known and understood. The systems science postulates to tackle complexity in its initial form, to create models that would reconstruct the complex reality through a number of variables. Complexity is characterised not only by a multiplicity of variables, but also by the interactions between them, which makes it *dynamic*. If a variable is changed within the system, it has an immediate or belated impact on other variables. A system with small number of elements can be seen as simple, but the interactions between these elements make it relatively complicated (Churchman 1977).

Complexity is linked to *uncertainty*. Although it could be argued that people live in the universal uncertainty, as there is nothing certain about tomorrow, Churchman believes, like most futurists, that uncertainty is increasing as the world becomes more complex. The *relation of complexity to future generations* has an ethical foundation. The decisions and actions taken today have implications for future generations and this *temporal* dimension of complexity cannot be overlooked in dealing with complexity and uncertainty today (*ibid*).

The epistemological question, of how to know and understand complexity posed by Churchman (1977), and following it the further challenge of how to manage complexity are a key issue for futures thinking (Lo Presti 1996). Futurists view the world as entirely interrelated, in which no system or unit can be viewed separately (van

Steenbergen 1990). Therefore, in order to understand the dynamic interconnections in the world, each element needs to be considered as an influence on other components and in turn being influenced by them (McHale 1969). Although it is widely recognised that "a holistic, all-encompassing perspective is necessary for adequate decision-making and social action" (Bell 2003:155) the intellectual activity of seeing and putting together the numerous pieces of knowledge describing the complex physical, natural, governmental and social systems is an outstanding world challenge (Marien 1985, Coates and Jarrat 1989, Bell 2003).

The first major attempt to approach complexity from the methodological perspective was the development of system models in the mid 1960s. System models were constructed to simplify a complex reality by describing it by a number of necessary variables (Masini 1993). The best-known example of such a model is *The Limits to Growth* developed by Meadows *et al.* (1972). Although system models were an important step towards encouraging a holistic view of the world, some would argue that the consideration of a single model, no matter how many extra variables can be added to it, is not effective enough. Linstone claims that the consideration

> "... of a system in terms of many elements and interactions does not constitute a holistic view of the system. The familiar reductionist analytic processes are inherently unsuited to this task." (Linstone 1977:8)

He postulates the consideration of multiple global system models, even if they seem to be contradictory. Models have been extensively used to represent urban systems and their behaviour over time. Their role in urban planning is discussed in more detail in Section 3.2.3.

Another issue, which is very important for futures thinking and closely related to complexity, is uncertainty. It is widely recognised that growing complexity leads to greater uncertainty and both are the key characteristics of the contemporary world. Uncertainty has a huge impact on forecasting activities. Michael (1973) argues that complexity, and consequently uncertainty, can be related to rules. If the variables are regular and it is possible to distinguish certain continuous patterns in a given complex situation then there is a particular stability, characterised by a lesser uncertainty, which makes forecasting easier. Conversely, if the complexity is turbulent and no rules and continuous patterns can be found then there is no stability and uncertainty is extremely

high; this makes forecasting exceptionally difficult (Michael 1973). Different levels of uncertainty with regard to turbulence can be distinguished. For example, absolute turbulence occurs when there are no rules, no continuity and no stability. In such a situation forecasting is virtually impossible. Michael (*op cit*) argues that there are many reasons that can cause absolute turbulence, for instance a new theory of knowledge or radical change of behaviour. The emphasis is placed on the fact that people cannot control such changes and the only way to deal with them is to learn to live with them (*ibid*, Masini 1993).

"The development of societal systems is leading towards ever-increasing complexity of societies and towards the growth of dynamicity of these systems." (Lo Presti 1996:900) Therefore, complexity and uncertainty, which are already key challenges for decision-making and planning, need to be effectively tackled (Churchman 1977, Lo Presti 1996, Masini 1993, Michael 1973). Two obvious ways of doing so are: decreasing complexity and consequently uncertainty; or learning how to live in an environment characterised by them. The first approach is not viable, as people do not have means to decrease complexity, especially if it is perceived as an inherent feature of the world. The second choice is postulated by most futurists. Michael (1973) claims that it is possible to learn to understand complexity and uncertainty and to live with them. Shon (1971) argues that in order to do so it is necessary to choose between a position of risk and a position of uncertainty. In the position of risk the probability of events is unknown but the variables describing complexity are recognised. This position can be characterised by knowledge and awareness. In the situation of uncertainty not only the probabilities are unknown, but also the variables. Dror (1971) writes about primary and secondary uncertainty. The primary uncertainty is attributed to situations in which the consequences of the present are not known, the variables cannot be identified nor the probabilities attached. Masini (1993) compares this situation to the state of absolute turbulence. The secondary uncertainty is similar to the position of risk described by Shon (*op cit*), as the variables and consequences of present actions are known, but the probabilities cannot be attached to possible events.

In summary, while considering issues of complexity and uncertainty, one needs to remember that complexity is a function of our understanding of the world; individuals and societies need to learn how to live with complexity and, in order to do so, they need to distinguish between what can be known and what cannot be known in that

context; and methods and mechanisms ought to be constructed in order to help people to position themselves in the 'position of risk' rather than in the 'position of uncertainty'.

2.3 Futures Studies

Futures Studies is a rigorous discipline that has evolved from futures thinking (Masini 1993). Although futures thinking is as old as humankind, the field of Futures Studies has been developing only over the last five decades. Bell (2003) sees Futures Studies as a part of the field of modern humanism, both philosophical and scientific. In the previous section the main concepts underlying futures thinking and consequently Futures Studies were discussed. This part focuses on the purposes and characteristics of Futures Studies as a discipline and explores the issues of values and ethics in its context.

2.3.1 Purposes of Futures Studies

For people the future can be "an object both of curiosity and of intense practical concern" (Rescher 1998:11). The universal purpose of Futures Studies is "to maintain or improve the freedom and welfare of humankind" (Bell 2003:73). This statement can be broadened to include all forms of life. More detailed purposes of Futures Studies, recognised by many futurists (Toffler 1978, Amara 1986, Coates and Jarratt 1989, Masini 1993) are "to discover or invent, examine and evaluate, and propose possible, probable and preferable futures" (Bell *op cit*). Bell (*op cit.*) distinguished nine major tasks (purposes) of Futures Studies. These are presented in Fig. 2.5 and discussed below.

The study of possible futures. One of the main assumptions of Futures Studies is the recognition that there is no one determined future, but instead many possible futures that can unfold. The present holds the seeds of future change (Malaska 1991); therefore, the exploration of possible futures should begin with looking at the present in order to identify the possibilities embodied in it. This requires a fresh way of thinking about the present, which would be creative and without preconceptions. In

such an approach, the question asked is 'what could be' rather than 'what is' and present problems are seen as opportunities for change in the future.

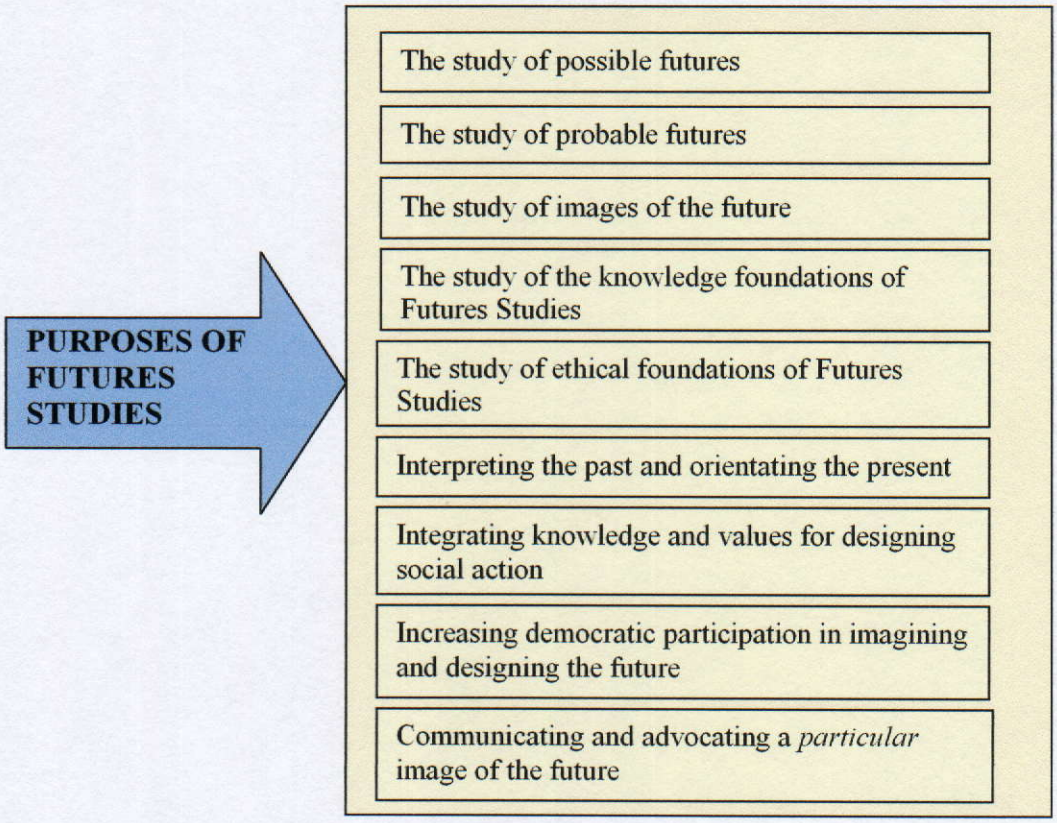

Fig. 2.5 Purposes of Futures Studies

The study of probable futures. It focuses on identification of the most probable futures for a given phenomenon in a given set of conditions. The questions asked are: what is the most probable future *if* the past and present conditions continue? And what is the most probable future *if* one or a number of conditions have changed? Consequently not only the most probable future is explored, but a number of probable futures that may unfold if given circumstances occur. Identification of the most probable futures is strictly related to the consideration of what set of circumstances are most likely to occur.

The study of images of the future. 'Image of the future' can be defined as a representation of expectations, anticipations, hopes and fears for the future. Images of the future influence human behaviour in the present, as people act in the present according to their anticipation of how the future might be like or in accordance to their wishes for the future they desire. A study of the 'images of the future' and their impact

on behaviour can provide valuable insights to the exploration of possible, probable and preferred futures. An important part of such a study is analysing the content of such images and identification of the values underlying them.

The study of the knowledge foundations of Futures Studies. Futures Studies like any other field needs to present the epistemological grounds on which knowledge is created. The fact that the future 'does not exist' and there are no facts about the future positions it between disciplines that deal with intangibles, such as law, aesthetics, and religion (Slaughter 1997). Futures Studies have developed an entire range of methods for the systematic investigation of the future, which are being continuously improved. On the other hand, there are gaps in the knowledge about the philosophical foundations for the exploration of possible, probable and preferred futures. These were investigated by only a small number of authors such as Helmer (1983) and Slaughter (1993 and 1997).

The study of ethical foundations of Futures Studies. This task is directly linked to the purpose of exploring preferable futures. Some authors (Ozbekhan 1960, Masini 1993) also observe also a connection of ethical issues to the study of possible and probable futures, especially in the relation to the technological forecasting. The ethical aspect of Futures Studies will be elaborated in further sections, as it is an important concern for futures thinking.

Interpreting the past and orientating the present. As it was noted before, people use the past to guide their present actions and also to formulate their images of the future. The experience gained in the past can be used to rationalise present choices and to improve behaviour according to the lessons learned previously.

Integrating knowledge and values for designing social action. The aim of Futures Studies is to assist decision-makers in developing appropriate policies and designing action (Glenn 1994). In order to do so, futurists need to integrate knowledge and expertise from a number of different fields. Bell argues that for effective action and policy design the identification of what knowledge is relevant and required should be based on the nature of the problem that is considered, the policy goals, social context and the technological means available (Bell 2003).

Increasing democratic participation in imagining and designing the future. Although this goal may not be relevant to all futurists, it is perceived as a primary responsibility by many. Futures Studies encourage the participation of citizens in proposing and evaluating alternative images of the future that affect their lives. Recently, an increasing democratic participation of citizens in imagining and designing the future has been observed in cities, where the general public together with stakeholders actively participate in the development of future visions for their cities and neighbourhoods. Examples of such projects are examined in Appendix 2.

Communicating and advocating a particular image of the future. One of the key assumptions of Futures Studies is that "some futures are better than others" (Bell 2003:157), therefore, futurists promote images of the future that would lead to actions resulting in the betterment of humanity. These images can be evaluated as both desirable and not desirable and be an inspiration or a warning.

2.3.2 Characteristics of Futures Studies

The characteristics of Futures Studies are a set of qualities that define the field and differentiate it from other disciplines. Masini (1993) characterises Futures Studies as transdisciplinary, complex, global, normative, scientific, dynamic and participative.

As a result of increasing complexity and interconnectedness in the contemporary world, phenomena have many different aspects to them. In order to understand and analyse such phenomena knowledge from various fields is required. A *transdisciplinary* approach is characteristic for many modern disciplines, but it is especially important in Futures Studies, which incorporate "both diverse subject matters and experts trained in many different fields" (Bell 2003:181) in order to analyse changes taking place and their possible consequences. It is important not only to use different approaches and different disciplines in the analysis of the same problem but also to exchange methodological tools and assumptions between different fields. This can lead to the development of new methods. Many methods used in Futures Studies, such as Delphi technique, scenarios, global models, involve a combination of approaches from various disciplines.

The concept of 'transdisciplinarity'[3] can be enriched by the notion of 'multidimensionality'[4]. Dror (1974) argues that Futures Studies are not only transdisciplinary, but also benefit from a variety of backgrounds, different schools of thought and different cultures that contributed to the development of many disciplines. Another aspect is raised by Michel Godet, who claims that the emergence of alternative futures depends on different mental attitudes that people have towards the future (Godet 1979, 1991, 2001).

The concept of *complexity* in relation to futures thinking is discussed in detail in the previous section. That particular section refers to complexity as a feature of Futures Studies. Clearly the content of Futures Studies is complex; therefore, a suitable approach to study this content is required.

'Globality', a different face of complexity and also related to transdisciplinarity, shows a global reference to many local and regional problems. It indicates a need to consider present and future problems from the universal perspective, whilst being aware that the immediate consequences and solutions of these problems are largely local. In the same way, problems emerging locally can have global consequences due to political, economic and cultural interconnectedness on a global scale.

In Futures Studies *normativity* refers to its connection to specific values, desires, wishes and needs of the future. Studies of the future can have an extrapolative or normative character. In extrapolative studies, the images of the future are being created by building upon the knowledge of the past and present, while in normative studies images of desirable or unwanted futures are formed based on wishes, desires and fears. Values, clearly visible in the normative studies, are also present to certain extent in the extrapolative studies, as they indirectly influence assumptions on which extrapolative images of the future are created. The division between extrapolative and normative studies of the future is important from the methodological point of view and it will be discussed further in the next sections.

Another aspect related to normativity is the role of imagination and creativity in Futures Studies. Imagination and creativity help to recognise new trends and elements

[3] Transdisciplinarity can be defined as an approach, which involves flow and circulation of information and knowledge between different disciplines (CIRET 2005).
[4] Multidimensionality can be described as a feature of having many aspects or components (Oxford English Dictionary 2005).

that may emerge in the future. Creativity and imagination are strongly connected to values, as often they are an indication of preferences, wishes and fears.

There is an ongoing debate among futurists as to Futures Studies are a *science* or an *art*. According to many scholars Futures Studies are an art by its very nature (Bell 1968, Jouvenel 1967). Others see the futures field as both a science and an art (Coates 1987, Hahn 1985 and Amara 1986). Another group including Beckwith (1984), Encel *et al.* (1975) and Malaska (1995) perceives it predominantly as a science (Bell 2003). This discussion can be settled by Helmer's (1983) conclusion that it is not a subject matter that makes a discipline scientific, but the way in which knowledge is approached.

The *dynamic* character of Futures Studies is imposed by the continuous changes taking place. The world evolves continuously as the pace of transformations accelerates and complexity and uncertainty increases. Futures Studies, in order to fulfil its primary purpose of the examination of the future, need to understand the nature and direction of change, and, therefore, to gather knowledge describing these changes to constantly improve the methods and techniques used for the examination of the future.

Participation, like scientificity, is an arguable characteristic of Futures Studies. It is related to the democratic values. Its underlying assumption is that all those who would be a part of the future should participate in decisions making about the future as well as its implementation (Jungk 1973, Hawaii 2000 1977-8). This characteristic can be realised only at the local level of Futures Studies.

2.3.3 Values and ethics in Futures Studies

The aspect of values, already mentioned in the context of normativity, was discussed by many futurists, who approached it from different perspectives (Ozbekhan 1960, Amara 1980, Schwarz *et al.* 1982, Bell 1997 and 2003, Masini 1993). One of the first researchers to pose a question about the role of values in Futures Studies was Ozbekhan as he was interested in the social consequences of technological forecasts. He pointed out a need to differentiate between 'what will be' and 'what people would want to be'. He indicated a danger attached to technology – when a capacity for technological advancement exists then its development has to be realised and used.

Ozbekhan warned that in such a situation human will (what people would want to be) is being substituted by compulsion (what will be) (Ozbekhan 1960).

Another aspect was presented by Amara (1980), who believes that 'value explicitness' is one of the general criteria that should be applicable to the whole futures field.

> "...whatever the premises revealed and objectives identified, it is important to clear the air by describing as precisely as possible values relevant to the output produced. For example, if we were making a forecast on the likelihood of economic growth, it would be imperative to know whether we are low- or high-growth advocates..." (Amara 1980:21)

Schwarz (1982) distinguished three broad types of values underlying studies of the future: **political**, which "underline or condition the way in which alternatives are outlined" (Schwarz *et al.* 1982:154); **professional**, which relate to how people involved in the study of the future perceive their own role in such a study; and **paradigmatic**, which indicate methodological principles and criteria of quality such as accuracy, predictability and reproducibility.

Any discussion of values and ethics cannot omit the issue of the responsibility of those engaged in the study of the future. The primary responsibility arises from the obligation to fulfil the universal purpose of Futures Studies - to sustain or advance the freedom and well being of humankind. This purpose is not exclusive to the Futures Studies field, but can be attributed to many other disciplines and professions. The unique contribution from futurists is prospective thinking (Bell 1997). However, exploring of the future does not remain the preserve of futurists, but solely it is a moral duty of all people (Fuchs 1977). Futurists are responsible not only for the activity of looking into the future, but also for consequences of such activities. Masini (1993) argues:

> "... those engaged in Futures Studies clearly have a specific responsibility to those forecasts, in turn linked to specific choices that will have a direct or indirect impact on the future." (Masini 1993:43)

Such forecasts should incorporate cultural and societal values of individuals and groups, whose lives these studies may influence. It is very important to analyse the values and the culture that underlie the choices about future (*ibid*).

2.4 The evolution of the Futures Studies field

The first attempts of systematic futures thinking can be traced back to the beginning of the twentieth century, to the works and speeches of H. G. Wells. Wells proclaimed the need for 'Professors of Foresight', whose jobs should be estimating future consequences of the new inventions and developments. He was concerned with how people deal with new discoveries and their consequences. While the benefits and advantages of technological progress were well known and appreciated, not much attention was given to its unseen and unknown consequences. Wells recognised that the need to adapt to new situations created as a result of technological development was the most urgent. This need could be fulfilled through an exploration of the possible outcomes of the present and future developments (Wells 1932).

It is commonly accepted that the evolution of Futures Studies as a systematic *discipline* began in the first years after the Second World War (Masini 1999). Over years, many different movements and trends emerged within the Futures Studies field. This section attempts to introduce and analyse the most significant and influential developments in the field and to explore their consequences for urban planning. It is difficult to classify them, as they are concerned with different areas of life and science, objects as well as processes and performed by academics and practitioners.

2.4.1 Social forecasting

Society is the setting where the new trends emerge, develop and mature, but it is also an object being influenced by these trends. These developments have different characters: economic, cultural, social, technological and environmental. The need to explore and assess the influence of various occurrences and trends on society was recognised by many futurists and expressed in their work.

The first analysis of social trends and the role of technology in social change appeared in 1930s in works of W. F. Ogburn (Bell 2003). His method included forecasting the future by quantitatively determining long-term trends concerning the past, and, then projecting them into the future for a number of decades (Jaffe 1968). Ogburn's theories of social change underlined the role of invention (Bell 1996, 1997). He believed that new discoveries were inevitable (Forrester 2002).

This problematique was continued and expanded further during the 1970s and 1980s, mainly by American futurists. Alvin Toffler, the author of the revolutionary book *Future Shock*, considered the relations between technology and society. While technology is important in answering the future needs of the world, it is the human being as an individual and as a member of the society who is important in the decision taken in the relation to technology (Toffler 1975, 1980, 1990).

The shift from industrial to post-industrial society was anticipated in the 1960s by Daniel Bell. The post-industrial society would be dominated by a tertiary sector, that is by services in which domination would no longer be in the hands of those with economic or financial assets but of those with knowledge (Bell 1996). This prediction had very important implications for policy-making and urban planning. The integration of this prediction, or its lack, in urban policies enabled cities to deal with the consequences of the emergence of post-industrial society in more or less successful ways. Cleveland (USA) can be seen as an example, where, in the late 1970s, a neglect of the socio-economic transition of the city, from industrial to knowledge based, from which the consequences of that neglect led to the establishment of incorrect policies and, in effect, taking faulty decisions. These decisions in turn caused a deep crisis in the city during the 1980s (Knight 1995).

The study of the technological impact on society was conducted by the "Commission for the Year 2000" in the United States. In 1965, the American Academy of Arts and Sciences created this special body to consider hypothetical futures and methodological problems in forecasting and a variety of social problems expected for the year 2000 in the US (Bell 1968). The work of the Commission went beyond technological forecasting.

2.4.2 Future and policy development

An important strand within the Futures Studies field itself from the planning point of view is policy development; some authors call it 'policy science'. Origins of the field can be found in the work of the political scientist, H. D. Lasswell (in Bell 1996) who was concerned with social policy and development of policy science. He formulated the concept of 'developmental construct', which could be described as an image, or portrait of the possible future state. The developmental construct was developed as a

result of rigorous and careful consideration of the past and the factors that contributed towards its creation. An example of developmental constructs can be the 'garrison state'. This is an image of the future world, in which the most powerful group in society would be the 'violence specialists'. It was not simply a military state, but a combination of military state with modern technology (Bell 1997). The whole methodology of futures research, of which the 'developmental construct' is a part, Lasswell called the 'developmental analysis' (Bell 1996).

In 1951, Lasswell, Lerner and others, published *The Policy Sciences*, where they laid out one of the first proposals and earliest frameworks for policy analysis (*ibid*). The purposes of creating such a field were: (a) to study the policy and decision-making processes themselves; and (b), to provide information to assist decision-makers in their tasks (Bell 1997). Lasswell also formulated five specific tasks for the study of the future: the clarification of goals and values; the description of trends; the explanation of conditions; the projection of possible and probable futures if current policies are continued; and the invention, evaluation, and selection of policy alternatives (in order to achieve preferred goals) (*ibid*).

2.4.3 'Globalistically'-oriented studies

The decades of 1960s and 1970s were characterised by raising awareness of, global environmental problems and connections. The emergence of the systems approach, and the development of models addressing global problems in a systematic way, inspired new direction in thinking about the future. J. W. Forrester developed the approach of system dynamics for urban systems. He analysed the future on the basis of five variables: growing population, industrialisation, use of resources, agricultural production and pollution. The variables were interrelated and created a global system based on a web of interconnections and assumptions (Forrester 1971).

The 'globalistic' strand raised the awareness about the future of the world. It directed the common attention to the number of world problems, such as hunger, environmental degradation, violence, overpopulation and alienation of the working class in order to raise a common consciousness and trigger action (Moll 1993). Emphases were placed on a need for joint efforts in solving these problems and on the multifaceted character of actions that needed to be undertaken (Masini 1993). The seminal report *Limits to*

Growth published for the Club of Rome, which was revisited and updated in 2004 (Meadows *et al.* 2004), has gained a great importance (Meadows *et al.* 1972). The work was based on the global model developed by J. Forrester and Dennis and Donnela Meadows. He predicted that if the world continued at the same pace of growth, it would lead to famine, the deficiency of natural resources and the degradation of the natural environment. The future described in the report was not determined, but a possible outcome if some of the strong pressures causing capital and population growth would not be weakened or counter pressures were not established (Meadows *et al.* 1972).

Publication of *Limits to Growth* and other activities of the Club of Rome influenced future thinking in many ways. They introduced a holistic, multidisciplinary and global approach, which became characteristic for the field. It advanced environmental thinking and activism and gave both an extended intellectual basis. It also advanced the methodology of simulation and modelling and their use in Futures Studies (Bell 1997).

2.4.4 Operational research and 'think-tanks'

Operational research, which gained an important place in the Futures Studies field, has its origins in the military activities conducted during the Second World War, when the civilian researchers were assigned to observe military operations and to make suggestions for improvements. For example, one of the results of these observations was a reduction in the gun-crew in the British Army from six to five people, since the sixth person had been made operationally redundant by the 1940s, where in the past the sixth person was needed there to handle horses (Dickson 1972).

Another example was incorporating the new technology of radar into an air defence system for Britain. The operational system was based on radar that included a series of predictions and revised predictions of the future route of German bombers, which were used to guide RAF fighter pilots, not to where the bombers had been or then were, but to where the bombers were going to be when the fighters reached them. The operational system itself was designed to maximise the effectiveness of the fighters in a range of future contingencies (Bell 1997).

The essential features of the operational research include a systematic approach to problems (a holistic view of interrelations of different parts and the relation of these parts to the whole itself) and an interdisciplinary team of researchers co-ordinating their efforts while viewing the problem from different perspectives (Ackoff 1968).

The big success of the 'radar' project and other ongoing military undertakings led to the formation of teams of scientists working on the war management problems. In 1945 General H. H. Arnold created a Research and Development Unit (RAND) in the US Army Air Corps (Bell 1997). Dr Vankarman conducted the first indication study in the field of military aeronautics. This US future study was the first to visualise the possibility of using guided missiles, which became reality many years later (Masini 1993).

In the 1960s and 1970s Herman Kahn, one of the most influential futurists working in RAND, produced forecasts to the year 2000, which had a great impact on the United States and other countries. He proved, with quantitative data and historical analysis, that it was possible that the essential problems of humanity could be solved with the help of technology (Masini 1993).

Futures activities performed at RAND, although until the 1970s mostly of military character, contributed to the development of Futures Studies in many ways. The futures approach in RAND's activities appeared in policy alternatives, designs, suggestions, warnings, long-range plans, predictions and new ideas. RAND workers developed the scenario-writing method, computer simulations, technological forecasting, the Delphi technique, program budgeting, cost effectiveness, and system analysis (Bell 1996). It is important to underline that RAND researchers learned that expected future events should be a major factor in policy research (Bell 1997).

Activities and projects carried out by different think tanks and futures laboratories could be classified as a part of Futures Research. The activities and developments taking place within these institutions were assigned to provide the decision-makers within governmental organisations, large corporations and other bodies with information on and analysis of possible futures and assist them to incorporate this knowledge in policy and decision making processes. From the urban planning point of view, the importance of this strand lies in the development of the entire range of methods to explore the future, such as the scenario method and Delphi analysis, and in

the attempts to influence and guide the decision-making process. The change of the mental model of decision-makers to absorb and incorporate a creative and innovative future thinking into the process is another merit of this strand.

2.4.5 National planning

An important aspect of futures thinking is its incorporation into national planning. Beginning with World War I, the non-systematic character of planning was replaced with full-time institutions organised to co-ordinate the details of planning for the future (Bell 1996). In the period between World War I and World War II, focus on the future was visible in planning processes in Russia, Germany and Italy, however, the approaches used were not based on principles of modern futures thinking.

Some aspects of the futures thinking were observed during the Great Depression of 1930s. Responses to the Great Depression are now understood as a part of modern Futures Studies: analysis and interpretation of the recent past and present; projections of future developments if no interventions occur; a description of possible alternative actions, and the different futures each will lead to; an assessment of alternative futures as to which are the most desirable; and a selection of specific policies to implement in order to gain the desirable future (*ibid*).

Another process which helped to develop systematic approaches to futures thinking was the formation of new states from the colonial territories after World War II. About 120 new states were created, mostly in the 1950s and 1960s, a trend which was continued more recently as the former Yugoslavia and the Soviet Union broke up into separate independent states (Madge 1968, Masini 1993). The governments and societies creating new identities for these countries were looking for images of the future on which the plans for the future could be constructed (Bell 1996).

The need for planning in these new countries became very evident at an early stage. The new states were given funds and equipment to support development; and also the help of experts building theories of development, introducing planning tools and assisting in creating images of the future. By the mid-1960s, nearly all the new states had formed national development plans and central planning units (Madge 1968). The World Futures Studies Federation and the United Nations Development Programme

prepared a study *Rethinking the Future: A Manual of Futures Studies for African Planners* (WFSF 1986), which was intended as a methodological tool for use by planners in Africa (Masini 1993).

The futures thinking approach was embraced by French planning. The principles of the Prospective approach were applied in the activities of the French Planning Commission, the Ministry of Defence and later the Commission for Regional Development (Commissariat Général du Plan, Délégation D'amenagement du Territoire et de l'Action Regional (DATAR)) (Roubelat 1997). Pierre Masse, head of the planning commission in the 1960s, promoted the interaction and integration of futures thinking with the practical problems of planning faced by technocrats and planners. In 1963 he appointed a committee to look forward to the year 1985, and to consider the future of the French economy and society (Cornish 1977, Masini 1978).

Over the years, the Prospective approach gained significant importance in France. The earlier mentioned DATAR supported a development of the theory and practice of the field. Many studies concerned with the whole range of themes were conducted. Research on the methodology of the approach was carried out simultaneously with applied research on global problematique, urban problems, social change, regional development, communication and others (Roubelat 1997).

In the 1990s, new fields emerged: 'prospective régionale' and 'prospective terittoriale' (*ibid*). Many studies on urban and regional development were conducted using the Prospective approach, for example the study on the future of Greater Lyon discussed in detail in Appendix 2. Prospective has been implemented successfully by many local governments and is considered to be useful at the regional and local level (*ibid*).

2.4.6 Current Foresight activities in Europe

Over the past two decades, the number of future-oriented activities has been growing in various parts of the world. Particularly strong interest in long-term thinking and a sustained commitment to future-oriented activities has been shown by the European Community. In 1978, the FAST programme (Forecasting and Assessment in the Field of Science and Technology) was established in order to "test the usefulness of forecasting and assessment work in the definition of long-term objectives and priorities

for (European) Community Research and Development" (FAST 1984a:3). The overall aim of the programme was to conduct multidimensional analysis of scientific and technological change so as to highlight their implications and consequences for the common policy (FAST 1984b). The works of the first FAST programme involved: the analysis of similar work undertaken in the European Community and elsewhere; highlighting prospects, problems, and potential conflicts that are likely to influence the Community's long-term development; and setting up a series of Community-wide flexible and rather informal cooperation networks. It was emphasised that the future-oriented activities did not aim to describe or predict the future in the year 2000 but to explore the possible options. The work carried out within the programme was based on two main principles:

1. the future is not predetermined; and
2. the future is a result of the interactions of the activities performed by various decision-makers and actors.

Consequently, the FAST programme promoted a scenario-building approach, which enabled images of possible alternative futures to be developed rather than to use models based on past data (FAST 1984a).

The second phase of the FAST programme, which was launched in 1984, aimed at the establishment of priority options for new long-term direction of the European Community action in the following fields:

- relations between technology, employment and work,
- integrated development of renewable natural resources,
- the emergence of new strategic 'industrial' systems in the fields of communication and food,
- transformation of services and technological change.

One of the other FAST's objectives involved strengthening the foundations for prospective thinking in Europe by multiplying European cooperative networks between centres of research in EC countries and the national organisations charged with the long-term outlook (FAST 1984b).

The European Commission has been increasingly committed to research in Foresight. Various research projects exploring a range of future possibilities as well as projects aiming at improvement of the futures methods and techniques have been funded by the 4th, 5th and 6th Research Framework Programmes. Among the major projects promoted

within the 4th Research Framework Programme were: Formakin (Foresight as a Tool for the Management of Knowledge Flows and Innovation), Europta (European Participatory Technology Assessment) and ASTPP (Advanced Science and Technology Policy Planning). The 5th Research Framework Programme financed projects such as DFFN (Design For Future Needs), eFORESEE (Exchange of Foresight Relevant Experiences for Small European and Enlargement Countries), Europolis (Scenarios for the Evaluation of the European Science and Technology Policy), FOREN (Foresight for Regional Development), Fomofo (the Four Motors Foresight Initiative), ITSAFE (Integrating Technological and Social Aspects of Foresight in Europe), and TAMI (Technology Assessment in Europe; Between Method and Impact) (CORDIS 2005).

An important project from the urban and regional planning point of view conducted within the 5th Framework was the FOREN initiative. The main aim of FOREN was to encourage effective integration of Foresight into the regional development policy and strategic planning. The project also aimed to create a platform for the exchange of experiences in the fields of Foresight and regional planning, and to identify good practices, which could be used as a source of reference for various Foresight activities at regional level in different parts of Europe (CORDIS 2005, FOREN 2005).

In recent years, the major stimulant for promoting future-oriented activities was the agreement of a long-term strategy for the development of the EU, which took place in March 2000 in Lisbon. The 'Lisbon' strategy aims to make the European Union "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion" by 2010 (CORDIS 2005). Research and innovation policies are developed upon visions and images of how science, technology and society would be like in the future, therefore, there is a strong need for cooperation in Foresight among the national and EU research activities (*ibid*).

Foresight activities are also performed by the Institute for Prospective Technological Studies (IPTS), which is one of the eight research institutes under the Joint Research Centre (JRC). IPTS was established in 1994 as a centre of excellence in the field of future-oriented studies (Foresight and Prospective). Its aim was to provide the techno-economic analysis required to support European decision-makers. The work of the

Institute is focused on the following areas: sustainability in agriculture, food and health, sustainability in industry, energy and transport, information and communication technologies, and support for the European Research Area (IPTS 2005).

2.5 Futures methodologies and techniques

Over recent decades, a number of different methodological approaches and techniques have been developed in order to explore and imagine possible, probable and desirable futures. These approaches and methods are being constantly advanced as the accelerating pace of change and increasing complexity and uncertainty pose new challenges for those involved in the study of the future. In the first part of this section the main terms relating to the study of the future, such as *forecast*, *prediction*, *projection*, *prognosis* and *futuribles* are discussed. In addition, an attempt to clarify and define the terms methodology, method and technique is provided, followed by various typologies of futures methods. The section ends with an exploration of issues of data availability and methodological rigour. In the second part, the main methodological approaches (Foresight and Prospective) are examined and main futures methods and techniques are presented.

2.5.1 Terminology

Futures Studies is a relatively young discipline, which has been advanced by a number of different groups (scholars, professionals, military) coming from various cultures and backgrounds, and serving different aims and responding to a very wide range of public and private needs. This could partially explain why Futures Studies, contrary to most disciplines, does not have a complete, universally accepted terminology (Masini 1993). The terms discussed below, often used in other fields, describe various types of studies of the future and are the most basic to the discipline.

Forecast. According to Eric Jantsch forecast is a "probabilistic statement, on a relatively high confidence level, about the future" (Jantsch 1967:15). Slaughter describes forecasts as statements about the futures, which are "based on conditional hypotheses that are grounded in the careful analysis of past experience" (Slaughter 1997:7). Forecasts are made building upon the assumption that if the original

conditions would be maintained and current trends would run true to form, then a specific result can be expected with a certain degree of confidence. Slaughter emphasises that such "reasoning must be based on a thorough understanding of the system or systems involved" (*ibid*). Forecasts are often used by governments, industry and business.

Prediction. Prediction can be defined as "a confident statement about a future state of affairs" (Slaughter 1997:7) or "a non-probabilistic statement on an absolute confidence level about the future" (Jantsch 1967:15). Both authors emphasise a high level of confidence of predictions. Bell (2003) defines prediction as "a statement about the expected occurrence of some future event, outcome, state, or process" (Bell 2003:97) without stressing the level of confidence. According to Masini (1993) this term tends to be avoided by futures thinkers.

Projection. Bell (2003) describes projection as a prediction based on the quantitative extrapolation of time-series data. Masini (1993:55) defines projection as "the analysis of trends, which go from the past and present into the future in a linear process of current trends". For demographers, projection usually means a development of a trend based on a set of assumptions (Long and McMillen 1987).

Prognosis. Prognosis is a term used mainly in Germany and Eastern Europe and it has the same meaning as forecast. Some authors also use it in a broad sense of Futures Studies (Masini 1993).

Futuribles. Originally a French term, which has spread throughout Europe in its usage. The term indicates the existence of many possible alternative futures that can unfold (de Jouvenel 1967).

Methodology, method and technique. Other terms that need to be clarified and defined, especially in the context of this thesis, are methodology, method and technique. According to Oxford Dictionary, *methodology* is "a set of methods and principles used to perform a particular activity" (Oxford Dictionary), *method* is "a particular way of doing something" (*ibid*) and *technique*, like method, is also "a particular way of doing something" (*ibid*). Ratcliffe (2002b) drew a clear distinction between the words *methodology* and *technique*:

> "Methodology is taken to be the overall activity or discipline, with an associated intellectual domain, by which to approach a subject or problem. Techniques are the tools by which the methodology is applied." (Ratcliffe 2002b:11)

In this thesis, the terms methodology and technique are used according to the meaning used by Ratcliffe (*ibid*). The words 'method' and 'technique' are used as substitutes, and they refer to individual methods, such as Delphi method, scenario technique, cross-impact analysis, and visioning.

The terminological confusion in the Futures Field refers also to various terms used as a name for various activities involving futures thinking. Although most authors use the term 'Futures Studies' as a name for the discipline, which is fundamentally concerned with futures thinking, some authors also call it 'Futures Research', 'Futurism', 'Prospective', and 'Prognostics'. There are also quite considerable differences between meanings given to these terms by various authors. Slaughter (1997) distinguishes 'Futures Field' as a main frame of reference for futures thinking. According to Slaughter (*op cit*), the Futures Field involves three main areas of activity.

- *Futures Research*, where emphases are placed on forecasting, planning and exploring futures using mainly quantitative and analytical techniques.
- *Futures Studies,* that are concerned with understanding the Futures Field as a whole, developing various futures concepts and communicating these to different groups.
- *Futures Movements*, such as women, peace and environmental groups, which have an impact upon the goals of the Futures Field and the society as a whole (Slaughter 1997).

Glenn (2003) describes 'Futures Studies' as "any exploration of what might happen and what might we become" (Glenn 2003:6), 'Futures Research' as "the use of methods to identify systematically the consequences of policy options and to identify alternative futures with policy implications for decision makers" (*ibid*:6) and 'Prospective' as "the study of the future to develop a strategic attitude of the mind with a long–range view of creating a desirable future" (*ibid*:6). For Ratcliffe (2002b), the terms Futures Studies, Futures Research, Foresight and Prospective describe various methodologies. Some authors, for example Martin (1989), consider Prospective and Foresight as two terms (French and English) describing the same – a futures methodology. Prospective originated in France and is widespread in French speaking

countries, while Foresight is a term mainly used in English speaking states. Other scholars see considerable differences between these methodologies which are explored later on. Futures Studies tend to explore more general issues and are often seen as the 'academic face' of the Futures Field, while Futures Research tends to be more policy and decision-making oriented and could be perceived as the 'professional face' of the futures field.

Considering various meanings given to the terms discussed above, in the context of this thesis they will be used as follows.

- Foresight and Prospective as the names of methodologies.
- Futures Studies or Futures Field as a name of the entire discipline.

2.5.2 Typology of methods

Futures methodologies and techniques can be classified in many different ways. From the broad literature two main classifications arise, extrapolative or normative, and quantitative or qualitative (described by some authors as objective and subjective).

Extrapolative and normative. Extrapolative methods are described by Eleonora Masini (1993) as 'opportunity-oriented' and explore possible futures without regard to what is desirable (Glenn 1994). The starting point is in the present and alternative futures are projected (FOREN 2001). Normative methods, 'mission-oriented' (Masini *op cit*), are based on values and wishes and address the question: what future is desirable (Glenn *op cit*). At first, the image of a desired future is created and then it is worked backwards, to establish how this future can be achieved (FOREN *op cit*).

Quantitative and qualitative (objective and subjective). Quantitative methods involve mathematical calculations, which can operate on sets of real data (different variables and indicators) or may be based on assumptions opposite to reality. Qualitative methods usually do not involve numerical measurements and statistical analysis (Bell 2003). They often are based on abilities such as intuition and creativity (Puglisi 2002) and the knowledge, experience and personal skills of experts (Masini 1993).

Other classifications. Futures methods can be also classified as those "that study futures *for* and those that study futures *with* the final users of the future images" (Puglisi 2002:3). The development of participatory futures approaches was underlined

by a greater importance being given to involving the clients of those studies and different actors who have stake in the future (e.g. communities, business, administrative bodies) (Bezold 1999).

Another distinction can be made between *structured* and *unstructured* processes. The structured processes involve series of steps, so called 'mental paths', which comprise different techniques and allow a deepening of the analysis, building connections and exploring possibilities. The unstructured processes involve experts and are based on their knowledge and experience to explore the future possibilities. (Puglisi *op cit*).

The popularity of different types of methods used in Futures Studies has been changing continuously. In the 1950s and 1960s, most studies had an extrapolative and objective character. The 1970s brought increased interest in subjective and systematic studies, and in the 1980s most approaches had a mixed character (Masini 1993). In the past 20 years, a growth in participatory Futures Studies was observed as well as the tendency to combine different approaches. Table 2.1 presents the most popular futures methods and techniques and their position within the categories presented earlier.

	Qualitative	Quantitative	Explorative	Normative	'With'	'For'	Structured	Unstructured
Forecasting methods		X	X			X	X	
Trend Analysis		X	X			X	X	
Horizontal scanning	X	X				X		X
Cross-impact analysis		X	X			X	X	
Simulation and modelling		X		X		X	X	
Back-view mirror analysis	X	X	X		X	X		X
Delphi		X		X		X	X	
Scenarios	X	X	X	X	X	X	X	X
Visioning	X			X	X			X
Futures Biographies	X			X	X			X
Futures workshops	X		X		X		X	
Casual Layered Analysis	X					X		X

Table 2.1 Classification of futures methods and techniques (Puglisi 2002)

Finally, futures methods can be classified in view of whether they are used for a *study of possible*, *probable* or *desirable* futures. Techniques employed in the study of *possible* futures aim at extending human perception of future paths that can be taken. The 'best perceptions' are not obtained or managed by formal means, but rather created by intuitive and personal processes that resist analysis and formalisation. Among formal methods to improve human capabilities of imagining the possible paths are strategic interviews, structured workshops, brainstorming sessions, focus groups and so on. The primary objective for the study of the *probable* futures is to examine the structure of possible futures in order to look for links and relationships that would help to understand the situation as a whole. Such understanding helps to estimate the probabilities of individual futures. Techniques, which are used in the study of probable futures, include block diagrams, tree structures, matrices, influence diagrams, flow diagrams and scenarios. Methods used in the study of *desirable* futures seek to discover and examine people preferences for the alternative futures. The most important among them are those with participative character, such as role playing, joint problem solving (bargaining, negotiation, conflict resolution) and mediation techniques (Amara 1991).

2.5.3 Data reliability and methodological rigour

As for any other discipline, important aspects in the discussion of methodology are the availability and reliability of data, and the adoption of methodological rigour. In considering these issues, it is necessary to remember a number of important assumptions related to data in Futures Studies.

1. There are no hard facts about the future; therefore, any knowledge about it is based on speculation (Reichenbach 1951, Bell 2003).
2. The exploration of possible, probable and desirable futures is based on knowledge of the past and present (Masini 1993).
3. The study of the future has a multidisciplinary character and uses information from all fields (Glenn 2003).
4. Intuition, creativity and imagination play an important role in generating the knowledge of Futures Studies.

5. The role of futures studies is not to predict only one future, but to discover the alternative possibilities and analyse the risks associated with these possibilities and their consequences (Masini 1988).

"The availability of reliable data is essential for Futures Studies" (Masini 1993:52).It has been stated that lack of reliable data is a limitation especially for forecasting activities that require sufficient historical series of data, on which forecasts can be based. Problems also can arise from a lack of comparable information between different countries and regions. Although in the last generation global standards in data have been developed by many world organisations, the difficulties regarding data reliability have not been solved (Glenn 2003). Therefore, many authors postulate rigorous examination and evaluation of any data (quantitative and qualitative), which is being employed (Masini 1993, Glenn 2003).

As important as the availability of reliable data is the issue of methodological rigour, which relates to the way in which data and methods are applied. Study of the future, like any study, begins with the formulation of a research problem or question. In order to achieve useful results it is necessary to ensure that, firstly, the right question or problem is being examined. As Le Guin put it: "there are no right answers to wrong questions". Godet (2001) sees conformism and conventional thinking as factors that can lead to formulation of a false problem or question.

When considering Futures Studies as a science, it is expected that the result of a study of the future must be testable, either before or after the problem or question is being analysed (Lehman-Wilzig 1997). Lehman-Wilzig (*ibid*) criticises the Futures Field for the lack of rigorous assessment of past predictions. His point can be countered with Amaras' words:

> "One of the major criticisms of Futures Studies is that quality or validation criteria are non-existent. Actually, such criteria do exist but they are seldom applied, or quite inappropriate criteria are suggested. For example, one of the most common questions the practising futurist hears is, 'What is your record of hits and misses?', or, 'What fraction of the time have you been 'on target' in your forecast?'. These criteria are inappropriate because our purpose is not to predict – much as we would dearly like to do so. Rather our primary purpose is to generate images and to analyse and understand them so that we can act to increase the probability of producing futures that we prefer." (Amara 1991:647-8)

High quality results of futures exercises can be achieved by ensuring rigour in the application of futures methods. Godet (2001) believes that there are five conditions to introduce rigour: relevance, coherence, plausibility, importance and transparency. He emphasises transparency as a vital condition to appropriation. Amara (1991) proposes a set of initial quality criteria for Futures Studies that should be embodied in futures methods. For the *study of possible futures* the major quality criteria could be *plausibility*. The images of possible futures are based on speculation; therefore, they do not need to meet any rigorous tests of comprehensiveness, completeness or probability of occurrence. The main elements of plausibility involve: general compliance with fundamental physical and behavioural principles, internal consistency and reasonability.

The main criteria for the *study of probable futures* could be *reproducibility*, the reproducibility of hypothetical statements about trends and events. In the sciences there is 'experimental reproducibility', which in the case of Futures Studies can be substituted with 'informational reproducibility'. This can be defined as "the extent to which a given state of information (input) leads to a given forecast (output)" (*ibid*:648). The criterion of reproducibility relates mainly to the level of uncertainty accepted for the forecast. The key criteria for the *study of preferable futures* could be, as mentioned earlier (p. 41), *value explicitness* and *impact explicitness*. In the case of value explicitness the values under scrutiny should be those that are the most relevant to the preferred alternative future. In the case of impact explicitness, the important features are the active participation of key stakeholders, distribution of possible future benefits and losses and the development of common perceptions.

2.5.4 Futures methodologies

2.5.4.1 Foresight

First and foremost, foresight is a human ability that allows people to prepare for the future (Slaughter 1997). The term 'Foresight' became very popular in the 1980s. It is used to describe a range of future-oriented approaches that are employed in order to aid decision-making. Foresight can be defined as:

> "... a process by which one comes to a fuller understanding of the forces shaping the long-term future which should be taken into account in policy formulation, planning and decision making.... Foresight involves qualitative and quantitative means for monitoring clues and indicators of evolving trends and developments and is best and most useful when directly linked to the analysis of policy implications.... Foresight is not planning - merely a step in planning." (Martin 1989:4-5)

Another definition of Foresight is given by Horton (1995), who sees it as

> "a process of developing a range of views of possible ways in which the future could develop, and understanding these sufficiently well to be able to decide what decisions can be taken today to create the best possible tomorrow." (Horton 1999:5-9)

Finally, Slaughter (2005) describes Foresight as "the ability to create and maintain a high-quality, coherent and functional forward view and to use the insights in organisationally useful ways." (Slaughter 2005:1)

Most writers emphasise the link of Foresight activities to planning and decision-making processes. Foresight exercises have been undertaken in many countries in order to consider future implications of technological development and economic and social changes. In the context of regional development many authors (Ratcliffe 2002b) and organisations (EC, ARC Fund) refer to a definition drafted by FOREN Network:

> "Foresight is a systematic, participatory, future intelligence gathering and medium-to long term vision building process aimed at present-day decisions and mobilising joint actions." (FOREN 2001:3)

The Foresight approach arises from a convergence of trends underlying recent transformations in policy analysis, strategic planning and Futures Studies. It pulls together key agents of change and different knowledge resources in order to develop strategic visions and anticipatory intelligence. According to FOREN (2001) Foresight involves five essential elements:

- structured anticipation and predictions of long-term changes brought about by social, economic and technological development;
- participation of a wide variety of stakeholders;
- establishment of new social networks;

- development of a strategic vision that would guide actions; and
- recognition of the consequences of present decisions and actions.

The Australian Foresight Institute at the Swinburne University of Technology, Hawthorn, Australia, has played an important role in advancing the Foresight approach. The generic foresight process framework was developed as part of the introduction of Foresight to organisations with existing strategic planning capacity. The generic Foresight process framework comprises four stages: inputs, foresight, outputs and strategy (Voros 2003). The framework with questions describing activity for each stage and the main techniques employed in individual stages are presented in Fig. 2.6.

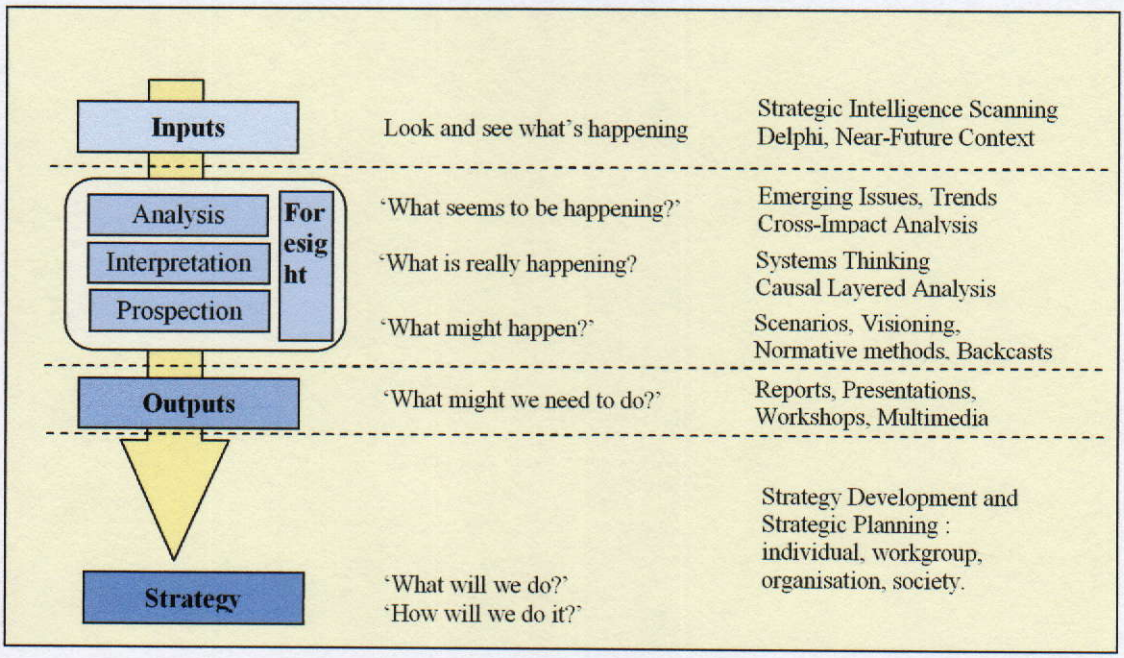

Fig. 2.6 The generic Foresight process framework with questions describing activities and methods employed at each stage (Voros 2003)

The initial stage in the process, *inputs*, involves gathering information and scanning for strategic intelligence. A number of different methods can be used in this phase, for example workshops, Delphi methods, brainstorming and 'strategic scanning'. Questions asked at this stage aim to open up thinking about the future (Voros 2003).

The second phase in the process, the *foresight* phase, involves three main activities: *analysis*, *interpretation* and *prospection*. The *analysis* is often considered as a preliminary step to a more in-depth work. The aim of analysis is to create some kind of

order out of large amounts of different information. The techniques used for analysis include trend analysis, cross-impact matrices and other analytical methods. The results of the analysis are then fed into the second step, *interpretation*. This step aims to examine what lies beneath the surface (Slaughter 1989) in attempt to answer the question: 'what is really happening?'. In this phase methods such as casual layered analysis or systems thinking can be applied. The last step within the foresight phase is *prospection*. It involves the examination and/or creation of views on alternative futures using methods, such as scenarios, visioning and backcasting (Voros *op cit.*)

The next phase in the process, *outputs*, involves the presentation of the outputs of the foresight work, both tangible and intangible. Tangible outputs would include the range of options generated in the previous phases, while intangible outputs would involve changes in thinking stimulated by the whole process. A range of different techniques may be employed to present the outputs, for example workshops, reports, role-play and multimedia. The final part of this process involves the creation of the *strategy* using the outputs of the foresight process. It needs to be emphasised that the results of the strategy phase need to be continuously fed back to inputs and the whole foresight process repeated taking the new inputs into consideration.

2.5.4.2 Prospective

The term 'Prospective' or 'La Prospective' can have two different meanings. Some futurists understand it as a name of the French branch of Futures Studies. Others recognise it as a particular futures approach that was formulated in France in the 1950s and which spread across Europe and parts of Africa and South America. Its origins can be found in the works of Gaston Berger and Bertrand de Jouvenel (Roubelat 1997).

Gaston Berger introduced the term 'Prospective' and the basis of the approach in the article "Social Science and Forecasting" published in 1957 in *Revue de Deux Mondes* (Cournand 1974). He argued that the constantly accelerating pace of technological and social change raises the importance of a need to anticipate the future and argued for the development of new methods, as the existing ones were becoming increasingly inadequate (Berger 1957). He described Prospective as "neither a doctrine nor a system" but:

> "A reflection on the future which seeks to describe its most general structures with the aim of bringing out the elements of a method applicable to our accelerating world." (Berger 1960 in 1974:101)

Roubelat (1997) listed the principles of Prospective approach, originally developed by Gaston Berger:

- to look far away as Prospective is a long-term activity concern,
- to look breadthways in order to examine interactions,
- to look in-depth to become aware of the most important trends and issues,
- to take risks because new possibilities can lead to the change of long-term plans,
- and to take care of humanity, as Prospective helps to generate understanding of implications for people (*ibid*).

Although Prospective has been developed for the last five decades by Berger's successors, many of his original postulates maintain their validity and merit. He stressed out that greater emphasis should be placed on action rather than just on forecasting: "A solution is always inevitable and, therefore, it is more urgent to prepare for it than to forecast it" (Berger 1960:106). Berger recognised a role of multidisciplinary knowledge and expertise as well as the presence of values in the study of the future:

> "... any venture of this kind rests on a close collaboration between philosophers who are attentive to ends and concerned with values, and specialists who are well informed about the realities in their field and about all the tools that various techniques put at our disposal. ... We have too often suffered in seeing wisdom separated from power not to wish for the collaboration of those who define the desirable and those who know what is possible." (Berger 1974:17).

He also highlighted a strong need for a clear vision of what future is desired, as freedom and choice offered to people by technology are virtually unlimited.

As mentioned earlier, the Prospective approach has gained considerable importance in the French public administration. It was used by the Planning Commission, the Ministry of Defence and later the Commission for Regional Development (DATAR). DATAR supported development of theory and practice for the Prospective approach. One of the results of this role was the formulation of the scenario method (Roubelat 1997). This method, as well as the whole Prospective methodology has been further

developed by Michel Godet, who also introduced a new concept of 'strategic Prospective' in the 1990s.

The concept of the 'strategic Prospective' involves application of the Prospective approach to strategic action and the corporate vision. Thus, it could be said that 'strategic Prospective' "acts as a management tool from anticipation to action through appropriation" (Godet 2001:18). Vision is necessary for anything to happen, starting from the small scale and moving to a larger extent. Mobilisation is more effective if it takes place within a framework of the project known to all involved. Internal motivation and external strategy are inextricably linked, which are two goals that cannot be reached separately. Ancient Greeks conceptualised this idea in a form of a triangle (Fig. 2.7). Anticipation (Greek 'Logos') relates to thought, rationality, discourse, while appropriation ('Epithumia') refers to desire in all its noble and less noble aspects, and Action ('Ergo') means realisation. The union of passion and reason, of heart and mind, is the key to successful action and individual satisfaction (Godet 2001).

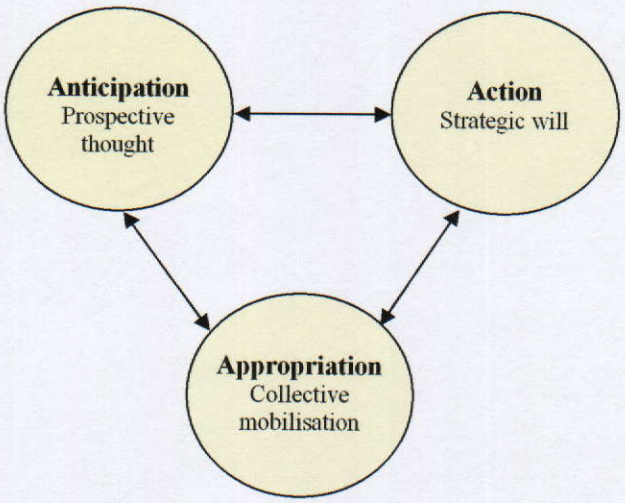

Fig. 2.7 The Greek Triangle: Anticipation, Appropriation and Action (Godet 2001)

Michel Godet's work resulted in the development of the 'strategic Prospective' approach for organisations and corporations, which he calls the Scenario Planning Process, as it is built upon the scenario method (Fig. 2.6). This process comprises nine main steps (Godet 2001). The *formulation of the problem/strategic question* requires analysis of the problem and a detailed study of its organisational context – the system. The method used to start up the process is usually Prospective workshop. The

identification of key internal and external variables involves detailed examination of all activities of the organisation. Strategic analysis and a relevance tree can be employed to fulfil this task. The *recognition of key internal and external variables* uses structural analysis to identify key variables of the organisation and its environment. The *detection of the organisation's dynamics in relation to its environment* seeks to capture the dynamics of the organisation and the environment in which it functions. A closer look is given to the evolution of the company, its strengths and weaknesses in relation to its strategic setting. This knowledge can be gathered through actors' games, battle fields and strategic stakes. The *development of environment scenarios* involves attempts to reduce uncertainty attached to the key questions about the future. Various methods (e.g. Delphi method or expert panels) can be used in order to identify the 'heavy trends', weak lines or breaks, which are utilised for the creation of scenarios. The *recognition of the strategic options* includes identification of strategic options that are compatible both with the organisational identity and the most probable scenarios for the corporate environment are highlighted. The *evaluation of strategic options* is conducted using a multi-criteria approach. This phase ends with reflection in anticipation of decision making. The *change from thinking to decision taking* is a point when the decisions are being made and the objectives are being prioritised. It usually involves only the steering committee or a group of decision-makers within the organisation. The last phase involves the *formulation of the plan for action.* Action is expressed through the implementation of decisions and it could be said it 'crowns the efforts' of the group involved in the process (*ibid*).

The process proposed and employed by Godet is directed at various organisations operating in the private or public sector. A number of case studies of the practical application of the Strategic Prospective approach were documented by Godet (2001). They involve case studies in industry and defence (The Aluminium Industry, Electricité de France (EDF), French Ministry of Defense, Armed Forces (ICW 2010)), services sector (Information Technology in the year Two Thousand Think Tank (IT5) for the European Computer-Industry Research Centre, Scenario Building at Axa France, the future of air traffic in Paris region) and agriculture and environment (BASF – Facing agri-food and environmental challenges). Although many of its elements can be used in similar processes for cities and regions, there are some aspects that need to

be transformed into a new context, as cities are different to organisations in respect of function, size, number of actors involved and so forth.

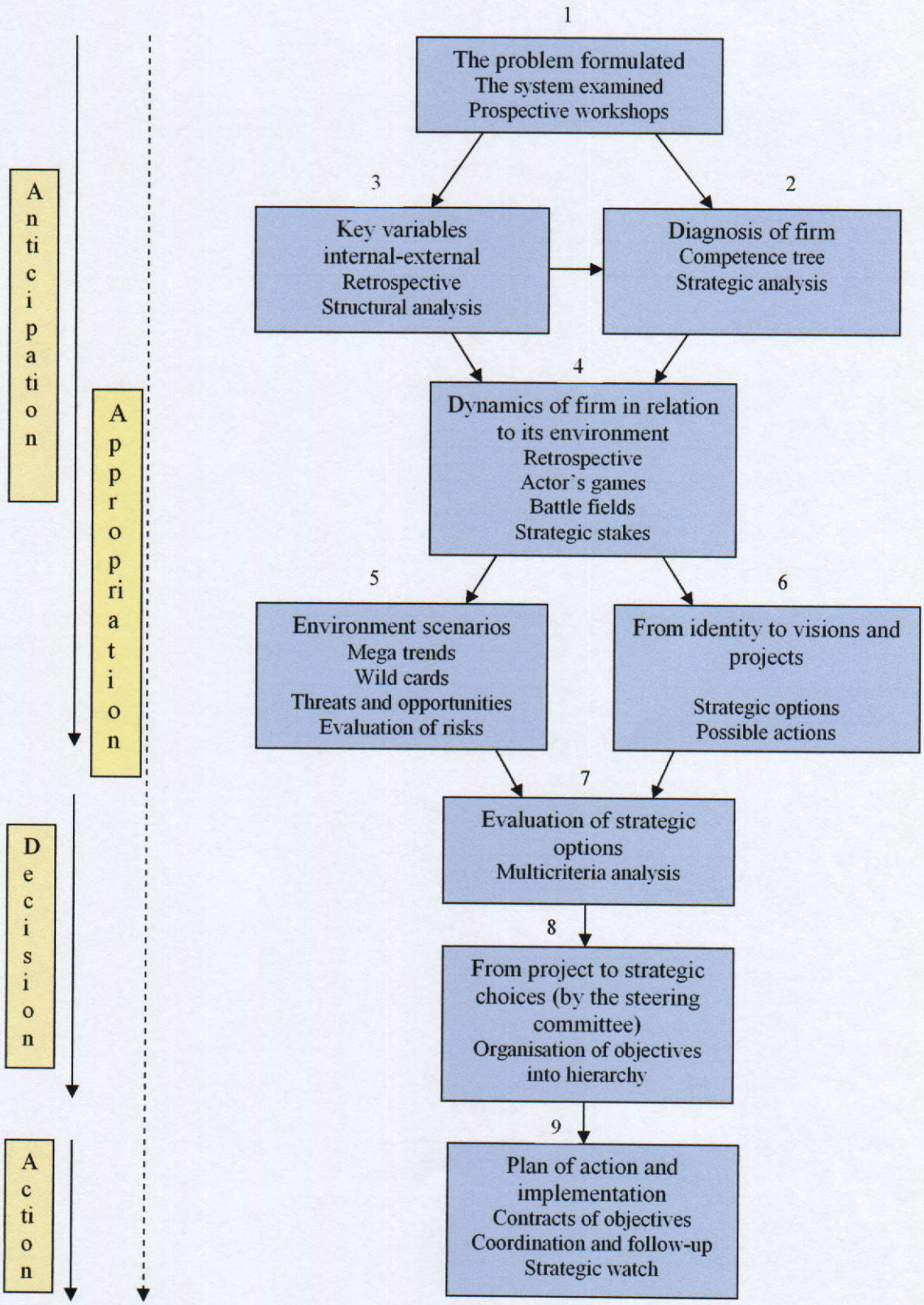

Fig. 2.8 Scenario Planning Process (Prospective process) in Godet (2001:82)

There are a number of important issues arising from Godet's work regarding the Prospective approach. Godet (2001) stresses the importance of participation of as many players as possible in the anticipatory phase. Such participation should be structured and organised in the most transparent and efficient manner possible. He also recommends that the techniques used for the exploration of the future should: stimulate the imagination, reduce inconsistency, build a common language, structure the collective thinking process and enable appropriation (Godet 2001).

Another approach, which has its origins in the French Prospective and was developed by The Futures Academy[5], is the *Prospective through Scenarios* methodology. The approach, presented in Fig. 2.9, integrates the scenario method with the Prospective methodology. It consists of 10 steps, of which the first seven are equal to the steps in the scenario method (discussed in detail in the Section 2.5.5) and the remaining three steps involve the following tasks: identification of the turning points; the development of the Prospective; and move to strategic planning. The *identification of the turning points* involves the development of the ability to translate movements of a few key indicators into a methodical set of signposts or triggers through the interpretation and testing of policy options. Such signposts or triggers enable identification of turning points that may have serious implications for the examined field. The *development of the Prospective* involves the creation of a vision of a preferred future. The last step in the process constitutes the *move to strategic planning* – the vision (prospective) is being translated into action through the means of strategic planning (Ratcliffe and Sirr 2003).

[5] The Futures Academy is based at Dublin Institute of Technology, Ireland. The author is a member of the Academy

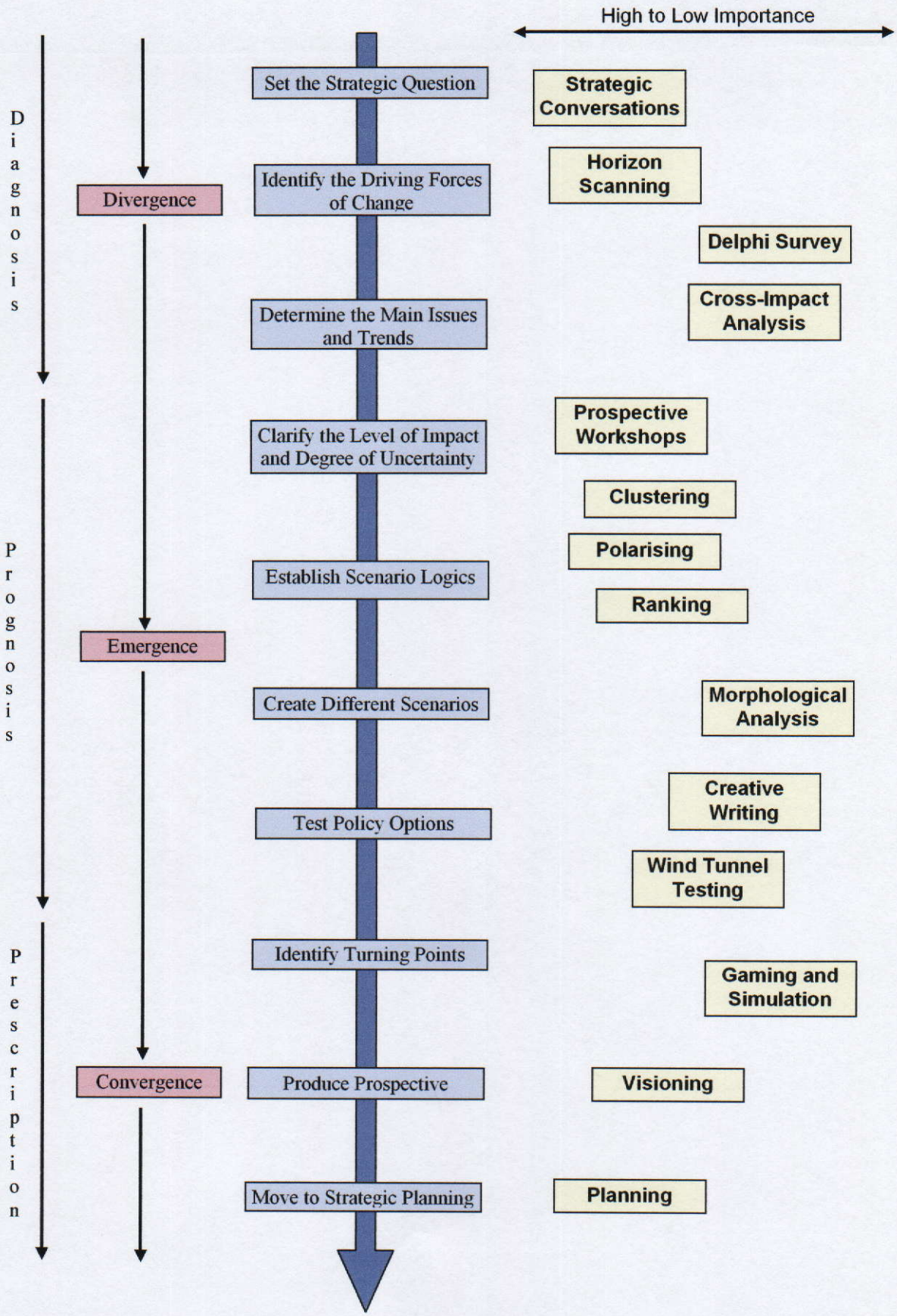

Fig. 2.9 The 'Prospective Through Scenarios' model (Ratcliffe and Sirr 2003)

2.5.5 Futures methods and techniques

In this section, various futures methods and techniques are presented. Each method is discussed in regard to its main purposes, procedures and the key issues involved in its application.

Environmental scanning. Environmental scanning is usually employed at the start of a futures project. It aims at a broad exploration of all major trends, issues, advancements, events and ideas across a wide range of activities (Ratcliffe 2002b). Information is collected from many different sources, such as newspapers, magazines, Internet, television, conferences, reports, and also science-fiction books. It is used to build up the knowledge required to analyse various aspects of the project and to decide on the key issues to be examined. When using the method, it is important constantly to update the information, so that any of the weak signals cannot be overlooked (Puglisi 2002). Four types of indicators can be examined in the process of environmental scanning: *lone signals* (individual factors that might indicate change); *landmark events* (in various areas of life); *forecasts of experts*; and *statistical descriptions* (to portray development of elements of the study) (Neufeld 1985).

Scenario method. Scenarios are one of the most popular and persuasive methods used in Futures Studies. Government planners, corporate strategists and military analysts use them in order to aid decision-making. The term *scenario* was introduced into planning and decision-making by Herman Kahn in connection with military and strategic studies done by RAND in the 1950s. It can be defined as:

> "a rich and detailed portrait of a plausible future world, one sufficiently vivid that a planner can clearly see and comprehend the problems, challenges and opportunities that such an environment would present." (The Futures Group 1994)

A scenario is not a specific forecast of the future, but a plausible description of what might happen. Scenarios are like stories built around carefully constructed plots based on trends and events (The Futures Group 1994, Ratcliffe 2002b). They assist in the selection of strategies, identification of possible futures, making people aware of uncertainties and opening up their imagination and initiating learning processes (Barbanente and Khakee 2003).

The number of people applying the scenario technique is quite large. A range of various processes can be found under the 'scenario method' name. They vary from simplistic to complex, from quantitative to qualitative. These procedures have many similarities as well as they can have unique features and differences in terminology (The Futures Group 1994). Ratcliffe (2002b) describes the scenario process as one that follows systematic and recognisable phases and is highly interactive, intense and imaginative. Godet (2001) argues that the scenario method generally requires a number of particular steps, including system analysis, retrospective analysis, actors' strategies and scenario drafting.

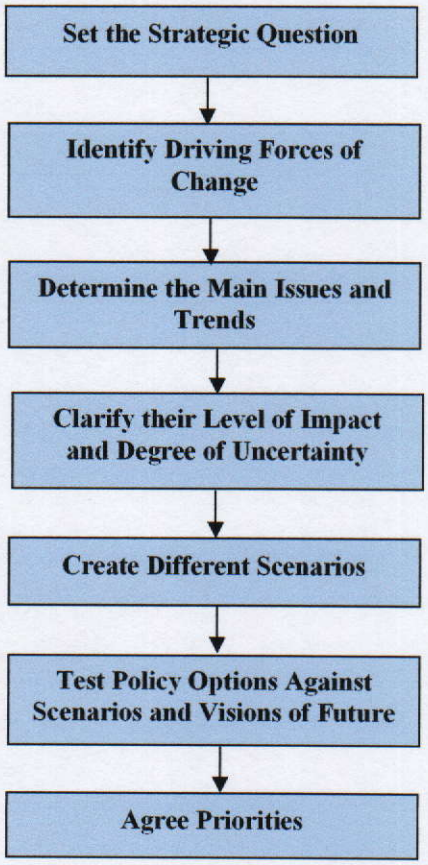

Fig. 2.10 The Scenario Process (Ratcliffe 2002b)

The basic scenario process presented here (Fig. 2.10) is used by Ratcliffe (*ibid*). It begins by formulating a focal issue that will be considered. This involves challenging peoples' perceptions and gathering background information, often from unconventional sources. The next step, of a more analytical nature, is the identification of driving forces of change, the predetermined elements and the key uncertainties.

These issues are subsequently prioritised in relation to their importance and uncertainty. Out of that a number, usually three or four, scenario stories are constructed. Each scenario describes a plausible alternative future against which policy options can be tested and their consequences detected. In the next step, the multi-layered structures and systems behind the scenario stories, and their underlying logic are elaborated in order to explain them and reveal the main differences between them. The final stage involves discerning the key events (turning points), which indicate that the future is moving closer to one scenario rather than the other (Ratcliffe 2002b).

One of the key strengths of the scenario process is its influence on the way of thinking of its participants. A mindset, in which the focus is placed on one possible future, is altered towards the balanced thinking about a number of possible alternative futures. Although it is a very rewarding method it is also very demanding. The difficulties in its use can arise from a lack of clear focus, purpose or direction. As a result, too many scenario stories can be created and/or their content may not directly be related to the strategic question (The Futures Group 1994).

Delphi method. The Delphi method is another very popular technique used in Futures Studies. It was developed by Gordon and Helmer in 1953 at RAND (Bell 2003). It can be defined as "a method for structuring a group communication process, so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem" (Linstone 1977:3). It uses a panel of experts to assess the timing, probability, significance and implications of factors, trends and events in the relation to the problem being considered (Ratcliffe 2002b). Bell (2003) distinguished at least eight steps in the Delphi process:

1. the specification of a topic or a problem for which possible, probable and preferable futures will be examined;
2. the construction of a questionnaire – the instrument for data collection;
3. the selection of experts (respondents) on the considered topic whose opinions will be studied;
4. the initial collection of the opinions through questionnaire;
5. the preliminary organisation and summary of data from the first questionnaire;
6. the communication of the initial results as a feedback to all the respondents;

7. the second collection of the opinions as respondents have been informed with the results of the initial survey and their opinions may have been changed in the light of these results and the 'supporting comments' of other respondents; and
8. an analysis, interpretation, and presentation of the data and writing of a final report.

Studies employing Delphi method are quite difficult to perform. Its application requires a great deal of attention being given to the selection of participating experts; the questionnaires have to be scrupulously prepared and tested in advance; and it is extremely time consuming. Delphi's primary strength is its ability to explore, in a detached manner and objectively, issues that require judgement. Its main weakness is that it can be easily substituted with other, more easily applicable techniques (Gordon 1994).

Cross-impact analysis. The method was developed by Theodore Gordon and Olaf Helmer in 1966 in an attempt to answer the question of how perceptions of future events may interact with each other can be used in forecasting. As is well known, most events and trends are interdependent in some way. Cross-impact analysis provides an analytical approach to the probabilities of an element in a forecasted set, and it helps to assess probabilities in view of judgements about potential interactions between those elements (Gordon 1994a).

The basic process of cross-impact analysis involves four steps, which are discussed below (Puglisi 2002).

1. Selection of the events and trends. This step involves selection of trends and events that have implication for the considered issue, and is crucial for the study. Two errors can be made: exclusion of important factors that will impact the final result; and inclusion of irrelevant events that can complicate the analysis (Gordon 1994a).
2. Defining the probability. This comprises the estimation of the probability of each event to occur ahead of the others and identification of future trends' courses. The probability of each event is assessed individually.
3. Construction of qualitative matrix. This includes a qualitative analysis of mutual interaction between events and trends. The impact of each event is considered on all events and trends.
4. Construction of quantitative matrix. The qualitative judgments are translated into numerical parameters.

The technique can be used by individuals and groups at an elementary qualitative level, and it can also be employed to perform more complicated and intensive quantitative analysis (Coates 1997). One of its strengths is that it forces attention towards 'chains of causality: *x* affects *y*; *y* affects *z*'. Conversely, it can be very fatiguing and monotonous (Gordon 1994a).

Trend analysis. Trend analysis is one of the most often used methods in forecasting. It aims to observe and register the past performance of a certain factor and project it into the future (Puglisi 2002). It involves the analysis of two groups of trends: quantitative, mainly based on statistical data; and qualitative, these are largely concerned with social, institutional, organisational and political patterns (Coates 1997).

In the quantitative trend analysis, data is plotted along a time axis, so that a simple curve can be established. Short-term forecasting seems quite simple; it becomes more complex when the trend is extrapolated further into the future, as the number of dynamic forces that can change the direction of the trend increases. This form of simple trend extrapolation helps to direct attention towards the forces, which can change the projected pattern. A more elaborate curve that uses times series analysis can often reveal surprising historical and current data patterns. Qualitative trend analysis is one of the most demanding and creative methods in Futures Studies. As trends are never self-explanatory, the identification and description of patterns is partly empirical and partly creative activity. The most challenging part of qualitative trends analysis is the identification of a tendency early, as recognition of a mature trend is 'relatively useless' in influencing behaviour (Coates 1997).

Simulation and modelling. Simulation and modelling are computer-based tools developed to represent reality. They are widely used to analyse behaviours and to understand processes. Models allow demonstration of past changes as well as the examination of various transformations and their impact on each other and on other considered factors. They facilitate the understanding of connections between factors and events and the examination of their dynamics (Puglisi 2002). Simulation is a process that represents a structure and change of a system. In simulation, some aspects of reality are duplicated or reproduced, usually within the model. The main purpose of simulation is to discern what would happen in the real world if certain conditions, imitated by the model, developed (Bell 2003).

Although modelling and simulation became even more popular with the development of computing technology, the application of these techniques have certain limits.

- Models represent a simplification of a system that is being examined; therefore, the results need to be carefully considered.
- As the complexity of real systems increases, models need to be more and more complex to represent the reality most accurately. As a result, they may become increasingly difficult to understand and operate.
- Their complex nature can cause problems with using and managing results.
- As models constitute a simpler version of reality, certain factors can be omitted, and in consequence can lead to mistakes. Such mistakes are not easily found and corrected (Puglisi 2002).

Visioning. Visioning is a popular method in studies of desirable futures and the one that gives emphasis to values. It is extensively used in urban planning. The visioning process is based on the assumption that images of the future lead present behaviours, guide choices and influence decisions (Puglisi 2002). Images of the future can be positive or negative and cause different responses according to the perceptions. A vision is usually seen as a positive, desirable image of the future and can be defined as "a compelling, inspiring statement of the preferred future that the authors and those who subscribe to the vision want to create" (Bezold 1997:1).

Ziegler (1991) distinguishes five main phases in the visioning process.

1. The discerning of concerns. The first phase involves the identification of problems affecting people. It is often referred to as a 'catharsis exercise' (Bezold *op cit*).
2. Focused imagining. This involves becoming aware of peoples images of the future that remain hidden in multiple levels of consciousness. It requires successive stages of deep imagining as well as deep listening both by participants themselves and other group members.
3. Creating shared vision. Participants, earlier working individually, form intentional groups, often called policy teams, in order to develop shared vision.
4. Connecting the future with the present. In the fourth step, participants link the future with the present by creating stories starting in the present as to how the desired future happened.
5. Discovering strategy paths and formulating action. The last phase aims at the identification of strategy paths and actions that need to be undertaken in order to

achieve the preferred future. This work results in the emergence of policies, programmes, innovative actions and new institutions.

There are a number of issues that need to be addressed while using the visioning method. Vision comprises peoples values, wishes, fears and desires. In order to make the visioning process work, it is necessary to ensure that it is not "making an idealistic wish-list" (Ziegler 1991:521); that vision is an image of the future shared by a whole community; and that the vision is translatable into reality (Puglisi 2002).

Futures workshops. Futures workshops were developed by Robert Jungk in order to allow anybody to become involved in creating their preferred future rather than being subjected to decisions made by experts. Futures workshops are very strongly action oriented. They aim, first to imagine the desired future, and then to plan it and implement it (Jungk and Mullert 1996). Futures workshops have four distinctive phases which are presented in Table 2.2.

Phase	Activities involved
Preparation	Identification of the issue to be considered. Arrangement of a structure and details of sessions.
Critique	Clarification of the issue considered. Articulation of negative experiences in the present situation.
Fantasy	Verbalisation of participants desires, dreams, fantasies and views about the future in a free idea generation session. The participants are asked to forget all the limitations and obstacles of the present reality.
Implementation	Analysis of the feasibility of ideas and solutions generated in the fantasy phase. Recognition of limits and barriers for implementation. Investigation of ways how they can be overcome.

Table. 2.2 Phases of a futures workshop (Jungk and Mullert 1996)

Another type of futures workshop is the Prospective workshop proposed by Godet (1991, 2001) as a first step for Prospective studies. Godet argues "through immersion, the futures workshop seeks to harness the collective thought process and apply it to strategic action" (Godet 2001:93). Workshops allow participants to think about the future as a group and collectively identify and prioritise the aims of the organisation or region. Each Prospective workshop has to be adapted to the needs of the study. It usually has two phases: exploratory (anticipating change) and normative (mastering change).

Causal Layered Analysis (CLA). This method, developed by Sohail Inayatullah, is one of the newest developments in Futures Studies. Causal Layered Analysis focuses on

'opening up' the present and past to create alternative futures rather than on developing a picture of a particular future. It is concerned with the vertical dimension of futures studies, and the layers of analysis. CLA is based on the assumption that the way in which a problem is formulated changes the policy solutions and the actors in charge of initiating transformations (Inayatullah 1997). The key principle of this method is using and integrating different ways of knowing (Puglisi 2002).

Inayatullah (1997) points out a number of benefits arising from the application of this method. Thus, Causal Layered Analysis:

- increases the range and richness of scenarios;
- leads to inclusion of different ways of knowing among participants in workshops;
- appeals to a wider range of individuals through incorporation of non-textual and artistic elements;
- extends the discussion beyond the obvious to the deeper and more marginal; and
- leads to policy actions that can be informed by alternative layers of analysis.

Inayatullah (1997) distinguishes four main levels of examination in such futures research: litany, social causes, discourses/worldview, and metaphor/myth. *Litany* is the most visible and obvious level in futures research. It examines quantitative trends and issues that are often exaggerated and used for political purposes. At this level, events, issues and trends appear not to be linked and discontinuous. The level of *social causes* is concerned with social foundations, which include economic, cultural, political and historical factors. At this stage, the quantitative data is interpreted; also the role of the state and other actors and interests is examined. *Discourses/worldview* constitutes a deeper level, which examines the structure and the worldview that supports it. Issues, such as population growth and civilisational perspectives of family, the role of women and social security are in focus at this level. One of the tasks is to find deeper social, linguistic and cultural structures that are not dependant on the actors. The last level, *metaphor/myth,* looks into deep stories, the collective archetypes, the unconscious, often emotional aspects of the problem.

Back-view mirror analysis. This builds upon the assumption that any future-oriented group process has to manage peoples' difficulties in thinking into the future. These difficulties can arise from the fears as well as from the lack of experience in futures thinking. Back-view mirror analysis allows for dealing with the fears related to the

future by creating a new perspective that looks to the past instead of starting the process in the present. The method is used to perform qualitative analysis of the past using both quantitative and qualitative data (Puglisi 2002).

Futures biographies. This method, also called futures imagining, aims to create individual visions, to gather peoples views on the future and to examine them in the study of collective future. Peoples' expectations and opinions are considered as an important indication of possible goals and to possible directions that can influence their actions and in result steer the future (*ibid*).

Monitoring. This is a process that aims at the evaluation of events, as they occur or during the immediate aftermath. It involves activities like scanning, detecting, projecting, assessing, responding and tracking. Monitoring is one of the fundamental activities performed by Futures Studies (Ratcliffe 2002b).

Content analysis. This technique is used for the systematic and objective study of particular aspects of various 'messages'. Such 'messages' can be found in books, journals, newspapers, private letters, publications of political parties, reports, surveys, interviews, television, Internet and so on. This method, in order to be reliable and valid, needs to be performed with a high level of competency (Ratcliffe 2002b).

Backcasting. Backcasting is a technique that often is defined as an opposite to forecasting. It involves the identification of a particular scenario and tracing its origins and lines of development back to the present (Ratcliffe 2002b).

Relevance tree. It is an analytical technique that subdivides a large subject into increasingly smaller subtopics. The relevance tree has a form of a hierarchical structure that begins with a high level of abstraction and moves down with greater degree of detail in the subsequent levels of the tree. It is a powerful technique that helps to ensure that a given problem or issue is broken into comprehensive detail and that important connections among the elements considered are presented in both current and potential situations (The Futures Group 1994a).

Morphological analysis. This method is often used in conjunction with the relevance tree. It is mainly employed for the identification of new product opportunities. The technique involves mapping options in order to attain an overall perspective of possible solutions. It comprises of the two main activities: a *systematic analysis* of a

current and future structure of the area including the gaps in that structure, stimulation for *creation of a new alternative*, which could fill the gaps and meet any needs (The Futures Group 1994a).

Futures Wheel. This method is a form of structured brainstorming that aims at identifying and packaging secondary and tertiary consequences of trends and events. A trend or event is placed in the middle of a piece of paper and then small spokes are drawn wheel-like from the centre. Primary impacts and consequences are written in circles of the first ring. Then secondary consequences of each primary impact are derived forming the second ring. This ripple effect continues in sequential fashion until there is a clear picture of the implications that the event or trend can effect (Glenn 1994a). The futures wheel is a very simple but powerful technique for drawing out opinions and ideas, but is sensitive to underlying assumptions (Ratcliffe 2002b).

2.6 Synthesis

Although thinking about the future has been present in human history from its beginning, the Futures Studies field, as a rigorous discipline, has been developing only for the past six decades. Thinking about the future has been recognised as a critical orientation point for humanity, as it is a key for interpreting the past, understanding the present, deciding and acting in the present and weighing up the use of present and future resources. There are a number of important concepts underlying futures thinking, such as time and its sequences - past, present and future, change and discontinuity, complexity and uncertainty. Time is perceived by almost all world societies as a relation between the past, present and future. The past holds links to history, experience, memory, identity and individual accomplishment; the present is seen as here and now; and the future involves hopes, wishes, fears, plans and aspirations. As the present in a physical sense is a brief moment, futurists proposed the notion of 'extended' present, which stretches to immediate past and to immediate future. The development of a clear distinction between the present and the future can be useful for prioritisation of plans and development of adequate timeframes.

Another notion, critical to futures thinking is change. Although change is an inherent part of life, its accelerating pace, simultaneity and interconnectedness over recent decades became a strong stimulus for the development of various forms of future-

oriented thinking. A range of models of change, representing human perceptions of the processes of change, was created in order to understand the structure of transformations and evolutions. Other important aspects of change are trends and discontinuity. Trends, the representation of regular changes of a situation over time, for many years have been used as the main basis for forward planning and forecasting. However, with growing complexity and uncertainty, unexpected breaks in trends (discontinuities) are increasingly observed.

The last, but not least, of the concepts underlying futures thinking to be discussed in this thesis are complexity and uncertainty. Complexity can be described as a feature of the models of knowledge used to approach and anticipate the future rather than a characteristic of future events *per se*. Uncertainty, closely linked to complexity, has a great impact on forecasting activities. The highest level of uncertainty, so called 'absolute turbulence', characterised by lack of rules, continuity and stability, makes forecasting virtually impossible. As increasing complexity and uncertainty create great difficulties for policy and decision makers, and there are no means for their reduction, it is necessary to learn how to live with complexity and uncertainty.

The Futures Studies field evolved from the futures thinking. Among its main purposes are:

- the study of possible and probable futures;
- the exploration of images of the future projected by societies and individuals;
- the development of the knowledge foundations of the field;
- consideration of its ethical fundamentals;
- interpreting the past and orientating the present;
- combining knowledge and values for designing social actions;
- increasing democratic participation in imagining and designing the future; and
- communicating and advocating an image of a preferred future.

Futures Studies can by characterised by a set of qualities that define the field and differentiate it from other disciplines. These features include: '*transdisciplinarity*', which requires attaining knowledge from different fields in order to analyse a given phenomena; *complexity*; '*globality*', which indicates a global reference to many local and regional problems; *normativity*, which emphasises link between the Futures Studies and specific values, wishes and needs for the future; '*scientificity*'; '*dynamicity*'; and *participation*. As the universal purpose of Futures Studies is to

maintain or improve the freedom and welfare of humankind, an important aspect of Futures Studies is its relation to values and ethics. It is necessary to stress that social and cultural values of individuals, whose lives future oriented studies may influence, should be incorporated in such studies. This is especially important in studies exploring the future of cities, regions and nations.

The first attempts of systematic futures thinking were made in the beginning of the twentieth century by H. G. Wells, who proclaimed the need for 'Professors of Foresight', whose job would be to examine future consequences of the new inventions and developments. Over the past few decades, a number of different strands have been developed within the Futures Studies field. Among them are:

- social forecasting, which addresses the need for exploration and assessment of various social trends;
- policy 'science', which links futures thinking with the study of policy and decision-making processes and generating information to assist decision-makers in these processes;
- 'globalistically'-oriented studies, which focuses mainly on global environmental problems and interconnections;
- operational research and 'think-tanks', which had its origins in military activities conducted during the World War II;
- national planning, which incorporates futures thinking into national planning; and
- Foresight activities in Europe, which embrace a range of future oriented research conducted within European Union research frameworks.

Over recent decades a range of different methodological approaches and methods and techniques has been developed in order to assist futurists in the exploration of possible and probable futures and the creation of preferred ones. Futures methods are usually classified as 'extrapolative' or 'normative', and as 'quantitative' and 'qualitative'. Some authors categorise them also as methods that are used to explore futures *for* and to explore futures *with* the final users of the future images. Other futurists make the distinction between structured and unstructured processes.

As Futures Studies is a relatively young discipline, many terminological issues are not fully clarified yet. One of the major challenges, which newcomers to the field are faced with, is understanding the difference between a methodology and a technique, and also

between the two main methodological approaches: Foresight and Prospective. For some authors, these are the names of futures activities in different countries. Others, including the author of this thesis, see Foresight as more an exploratory approach and Prospective as more a normative one. Methodology is the overall approach to a subject or problem, while technique is a tool by which the methodology is applied.

Other important issues from the methodological point of view are data reliability and methodological rigour. Consideration of these aspects needs to be related to the assumptions about data in Futures Studies. It is important to remember that: there are no hard facts about the future and, therefore, any knowledge about it is based on speculation; the exploration of possible, probable and desirable futures is based on knowledge of the past and present; the study of the future has a multidisciplinary character; intuition, creativity and imagination play a crucial role in generating images of the future; and finally, the role of Futures Studies is not to predict one future, but to discover alternative possibilities and analyse risks associated with these possibilities and their consequences.

3. URBAN PLANNING AND THE FUTURE

3.1 Introduction

> *"The future is generally considered to be a core concern of the planning profession." (Myers 2001:365)*

Urban planning is an activity pursued in an attempt to achieve certain social and economic goals, in particular to shape and improve urban environments, where increasing numbers of people live (Encyclopaedia Britannica 2005). It is a discipline with a fully developed theoretical and practical base. Urban planning at present embraces a number of strands, such as planning philosophy and theory, planning methods and techniques, planning systems and institutions, policymaking, and various types of planning, such as environmental, social, economic, transport, land-use, and heritage and conservation planning. This research is concerned with one specific aspect of urban planning – the way in which the future is approached and constructed in past and present planning processes. Therefore, this chapter focuses on this specific aspect of city planning. The chapter starts with a general consideration of what constitutes urban planning. In the following section planning's approach towards the future is examined in view of its historical evolution, including the most recent developments involving various strategic approaches and application of futures methods in urban planning. The main weaknesses in the current planning practice are identified in the preceding section and a critical comparison of urban planning and the Futures approach carried out. The chapter concludes with recognition of the ways in which the application of futures methodologies could benefit urban planning.

3.2 The concept of urban planning

Planning, an activity required in every area of life, can be defined as "the making of an orderly sequence of actions that will lead to the achievement of a stated goal or goals" (Hall 1992:3), or "a process of human forethought and action based upon that thought" (Chadwick 1971:24). Planning can be also seen as a method for the implementation of a selected future (Serra 2001).

'Urban planning' is a term used specifically in regard to planning for urban environments - towns, cities or metropolitan regions. This type of planning is also called: city or town planning, territorial planning, regional planning and spatial or physical planning. The concept of urban planning is multi-dimensional and has a very broad relevance. The scope of city planning differs greatly from one country to another and there is no one single definition of what constitutes urban planning. Although various authors representing diverse schools of thought place emphasis on its various aspects, planning's core purpose of creating good quality urban environments and its spatial and time dimensions are shared by all. The range of ideas of what constitutes urban planning is presented below.

Hall refers to 'urban planning' as:

> "... the planning with a spatial, or geographical, component, in which the general objective is to provide for a spatial structure of activities (or of land uses) which in some way is better than the pattern existing without planning." (Hall 1992:4)

This kind of planning is also called 'physical' or 'spatial' (*ibid*). Sharp (1940) defines planning as an attempt to formulate the principles that should guide human actions in creating a civilised physical environment for people. Keeble (1969) sees city planning as an art and science of arranging the use of land and placing buildings and transport routes in order to achieve the most realistic degree of economy, convenience and beauty. According to Ratcliffe (1981:13) planning should provide "the right site, at the right time, in the right place, for the right people" and according to The European Consultative Forum on Environment and Sustainable Development (ECFESD) (1999) spatial planning should "balance public interests between, on the one hand, the objectives of social cohesion and sustainability and, on the other, the need of competitiveness and market imperatives ECFESD 1999:4).

Myrdal (1968) offers a social interpretation of planning:

> "...planning ... is a determined effort, through democratic institutions for collective decisions, to make ... intensive, comprehensive, and long-range forecasts of future trends ... and to formulate and execute a system of co-ordinated policies framed to have the effect of bending the foreseen trends towards realising our ideals, spelled out in advance as definite goals." (Myrdal 1968:251-2)

Somewhat similar to the social interpretation of planning is 'community planning'. It can be defined as a process which brings together local councils and other organisations in order to plan, provide for, or promote the well-being of the communities they serve (COSLA 1998). The principle underpinning this concept is a belief that councils, as democratically elected bodies, should show leadership in enabling communities to effectively participate in the planning processes (The Scottish Parliament 2001).

Bracken (1981) describes planning in terms of its approach towards the future. He recognised four modes of planning: planning for the present by reacting to past problems; planning towards a predicted future; planning with a predicted future; and planning by creating the desired future. *Planning for the present by reacting to past problems* involves problem analysis, designing interventions and allocating resources accordingly. *Planning towards a predicted future* focuses on determining trends and deciding whether they are positive and negative. Resources are allocated in line with the desires to promote or change these trends. *Planning with a predicted future* also involves identification of trends, but the resources are distributed in a way that enables the use of these trends to the advantage. Finally, *planning by creating the desired future* requires deciding on which future is desired. Resources are allocated in order to change existing trends or create new ones. The desired future can be based on the existing or predicted trends, or new values.

Rose describes urban planning as "a multi-dimensional activity that ought to be integrative, embracing social, economic, political, psychological, anthropological and technological factors" (Rose 1974:26). He argues that the future-orientation of planning arises from its 'intrinsic' purpose of achieving human 'betterment' and 'improvement'. Rose (*op cit*), following Jantsch (1969), draws a number of essential characteristics that planning ought to be:

- integrating in approach and multidisciplinary in character;
- normative and self-directing; concerned with choice, preference and goals;
- adaptive to change – constantly modifying ends and means, preferences and objectives;
- democratic and participatory; and
- based on adequate information and examination of alternative courses of action.

British planning thought has had a great influence on the development of the planning field in Ireland (Nowlan 1984). Greed (1996) describes traditional British town planning as

> "... being concerned with the regulation of physical land use and development, which has been implemented through development control and development plan procedures." (Greed 1996:2)

Although the scope of town planning has been mainly spatial and geographical in nature, the author recognises the importance of the 'aspatial' types of planning related to social, economic, environmental and cultural issues. Greed also points out that planning is performed at many levels, from central to community level (*ibid*).

Rydin (1998) sees planning as: (a) a future-oriented activity incorporating the idea of decision-making to achieve a given goal; (b) primarily a public sector activity; and (c) a process focused on the physical environment, although the economic and social dimensions of planning are also recognised. Physical planning, in that context, relates to developing strategies for improving or protecting the built and natural environment. This does not necessarily mean that the main goal is the aesthetic quality of the environment. Other goals may comprise: the redistribution of resources to disadvantaged social groups, the longevity of the built stock, the conservation of nature, sustainable development and so on (*ibid*).

Koresawa and Konvitz (2001) describe spatial planning as one that:

> "... considers the interaction among policy sectors according to different territorial units, national, regional and local, across a wide range of policy sectors addressing different kinds of problems, economic, social and environmental. Spatial planning primarily concerns the co-ordination of policies." (Koresawa and Konvitz 2001:11)

They also recognise the future orientation of planning, although they argue that the future-oriented plans prepared by one sector rarely pay attention to wider spatial, territorial impacts of activities and policies and adopt only a single sectoral perspective (*ibid*). The difficulty in developing a holistic future-oriented view is also pointed out by Myers - "planning is concerned with the two universal dimensions, space and time, but it is often difficult to address both at once" (Myers 2001:366).

Reviewing different perceptions of the definition of urban planning a number of shared features can be found.

- The main purpose of urban planning is creating good quality urban environments for human life and activity.
- It is a future-oriented activity.
- It has a very strong geographical and territorial reference.
- Its role is to provide a structure and/or a set of principles to guide actions in regard to the development of territories.
- It is a multidimensional activity, which incorporates and addresses all urban dimensions, being social, economic, physical and political.
- It is primarily a public sector activity, although there is an increasing involvement of citizens and the private sector in the planning processes.
- One of its main tools is the control of land use achieved through zoning and investment programmes.

Summarising, these features can be used to draw a broad comprehensive definition of urban planning.

3.3 Constructing the future – the historical view

This section explores how future related issues were approached and constructed in the urban planning process at various stages in time. The exploration of this specific aspect is conducted within a broader framework of the evolution of the planning field given in Table 3.1. A number of issues are investigated:

- the way of thinking about the future;
- attitude towards change and complexity;
- the way of thinking about the city and its various dimensions;
- methods and techniques used for the exploration of the future;
- people and institutions involved in the planning process; and
- the weaknesses of the planning process in relation to the future.

The answers to the questions above can vary between countries, as urban planning has been practised differently by different nations. Although the author has tried to keep the broadest perspective possible, the main sources used refer to the British planning practice, by which Irish planning was strongly influenced (Nowlan 1984).

	19th and early 20th century	1920s, 1930s and 1940s	1950s and1960s	1970s	1980s	1990s
Economic and social change	Industrialisation Urbanisation War	Recession and restructuring War and reconstruction	Post war boom Mixed economy Consensus politics	Turning point in economic growth Urban-rural shift Inner city decline	Recession (and recovery) New technology Collapse of mix economy consensus	Globalisation of: politics, economic and environmental change
Salient political issues	Public health Social unrest	Regional unemployment Suburban growth	Increasing living standards Rapid development	Racism and urban disorder Excesses of economic growth	Unemployment Track record of public sector	European integration Environmental crisis
Key planning activities	Housing Public sanitation	Regional planning	New towns Redevelopment	Inner city policy Rehabilitation and conservation Pollution control	Urban regeneration Countryside policy	Regeneration Sustainable development Flagship projects
Planning profession	Architects Engineers	Growth of separate identity	Corporate planners	Crisis of competence	Retrenchment Privatisation	Reassessment
Theoretical framework	Environmental determinism	Emergent planning theory	Procedural planning theory	Critiques: Organisation theory[1] Welfare economics[2] Radical political economy[2] Urban politics/sociology[3]	Political ideologies: New Right[1] New Left[2]	Collaborative planning[1] Critiques (reprise): Environmental economics[2] Radical political ecology[2] Environmental justice[3]
Conceptualisation of planning	Urban design	Public sector direction of land use	Generic decision-making	1. Policy implementation 2. State intervention 3. Community empowerment	1. Economic development 2. Community empowerment	1. Place making 2. State intervention 3. Community empowerment

Table 3.1 The development of planning policy and theory in Britain (Rydin 1998:12)

3.3.1 Urban planning until 1945

The beginnings of the modern planning thought can be traced to the period of the late 19th and early 20th century. This period can be summarised by the following quote: "idealised futures and grand visions were guideposts for current actions (Wachs 2001:368)." The need for planning was triggered by the simultaneous and related processes of industrialisation and urbanisation and their impact on cities. At first, urban environments were struggling with two main issues: provision of housing and health problems. Subsequently, World War I and the economic crisis during the 1930s brought about a number of social and economic problems – unemployment, poverty and the dereliction of urban areas (Rydin 1998).

Planning, prior to the 1st World War, was performed mostly by architects and urban engineers. After the war the 'planning profession' started to gain recognition, and increasingly 'planners' were charged with planning. Planning activity was based on the assumption that there is a relationship between physical environment and society (physical determinism). It was believed that through the careful professional design of urban territories, it was possible to create an environment that would enhance the quality of life and also would improve inhabitants themselves - physically, morally and socially. Therefore, the main focus was placed on the physical aspects of urban design (*ibid*).

Planners focused mainly on the production of master plans, this is the statements about the future end-state of the city or the region. These reflected their visions of how cities should look. As Hall described it: "There was one true vision of the future world as it ought to be, and each of them saw himself as its prophet" (Hall 1992:61). An interesting example of such vision is the concept of 'garden cities' developed by Ebenezer Howard, and realised earlier by a number of industrialists with 'philanthropic leanings', for example Robert Owen, Titus Salt and George Cadbury. Most of those early plans and designs did not have alternatives, and little or no attention was given to the changes and trends taking place in the outside world. An exception was Patrick Geddes, who believed that planning should start with the world as it is, and it should try to take into account and work with economic and social trends, rather than impose its own subjective vision of the world (*ibid*). Geddes's planning theory was based on the approach: 'survey, analysis, plan'. He argued that the planning process should start

with understanding the city within its historical context. This was to be achieved with the survey method. The role of survey was to inform and stimulate public discussion and co-operative action. Geddes also proposed to examine cities in their regional context (Hebbert 1982). Furthermore, he was an advocate of 'visionary thinking and ideas' in shaping urban life (Hasselgren 1982).

3.3.2 Post-war period (1945 - mid 1960s)

The first decades after the war in Europe and Britain were characterised by high population growth and strong economic development, full employment and the increasing migration of people. The planning activity was performed by planners – professionals from mainly architectural, engineering and surveying backgrounds, although increasingly emerging from disciplines such as geography, economics and sociology (Rydin 1998). Planning professionals working for local governments became an important part of an elaborate planning system set up in Britain and many other countries in the post war period. The essential function of the planning system was "to control and regulate the pace and direction of change – social, economic and physical" (Hall 1992:115). It was assumed that the control of change was both desirable and feasible. It was desirable because most decision-makers believed that uncontrolled change had unwanted and negative effects. The feasibility of this approach was based on the assumption that population growth and economic development would be slow; therefore, it was possible to control such change (*ibid*).

In the first years after World War II, similar to the interwar period, urban planning was focused on the physical planning and design of land-use and the built form. The vision of the desired future was presented in a form of master plans or blueprints, which defined the required overall pattern and size of towns and cities across the whole country and detailed spatial structure along with the layout of urban territories or their constituent parts (Taylor 1998). The planning process, through which the master plans were constructed, was based on Patrick Geddes's procedure: 'survey, analysis, plan'. The existing situation was surveyed and then analysed in order to identify the remedial actions that needed to be taken. Then these actions were incorporated into the plans. Such spatial plans were prepared every five years. The sequential character of the planning process created an opportunity to review, update and modify plans, activities

considered as crucial in the continuously changing world (Hall 1992). McLoughlin (1969) criticised the way in which the survey was conducted. He claimed that often background information was collected for 'its own sake' and many plans seemed to have little or no connection to this information. He famously compared the transformation of survey into plan to the spiritual process of the word becoming flesh:

> "... it is almost as if survey or information-collecting was a kind of ritual behaviour, an appeasement of some planning god to ensure his blessing on the plan itself; but how the word is made flesh (or the survey into plan) is a mystery too deep to be plumbed..." (McLoughlin 1969:125-126).

The relation of master plans to the social dimension of urban environments was based on 'physical determinism'. Planners believed that communities and social neighbourhoods could be created by planning the physical neighbourhoods (Taylor 1998). Physical planning did not have much relation to the economy (Rydin *op cit*) and was seen as an apolitical process (Cherry 1974). Planning started to be seen as a part of politics only in the 1960s as a result of new political and social science theories (*ibid*).

The sequential planning process, involving the preparation of development plans and developmental functions, was introduced in Ireland by the *Local Government (Planning and Development) Act* of 1963. This process obliged local authorities to function as planning authorities, and to specify their proposals for long-term development, as they were required to think in terms of at least a five year time horizon. The development plans comprised of written statements and maps. They dealt with land-use zoning, traffic and circulation, the renewal of declining areas and the preservation and improvement of existing amenities (Bannon 1989).

'Blueprint' or 'master' planning was criticised for a lack of adequate empirical analysis and understanding of how cities and towns actually worked. Planners fixed the future of urban territories in blueprint plans, failing to recognise their changing nature as well as the complexity, richness and difficulties of social existence in cities (Taylor 1998). The plans were unsuited for coping with the broad and long-term policy issues, as well as with regional and sub-regional matters. They were inflexible and unable to adapt swiftly to changing conditions and circumstances (Bruton 1974).

3.3.3 The mid 1960s and 1970s

Radical changes in planning thought, which took place in the second half of the 1960s, were a result of the strong critique of 'master' planning, developments in social and political sciences and growing importance of cybernetics[6] in various areas of life. McLoughlin (1969:24) postulated:

> "Whilst retaining the vitally important understanding of the operations of building, engineering and the measurement and transference of land, the profession needs a far greater awareness of the process of change in the human environment, the underlying reasons for them, their manner of accomplishment, the complex web of interactions between human groups and much greater skill in the techniques of *foreseeing and guiding change*."

The new thinking was channelled into two directions: the 'rational process' view of planning and the 'systems view' of planning. The 'rational process' view of planning was concentrated on the planning process itself, which was seen as rational process of decision-making, while the 'systems view' of planning was focused on an object (town, city, urban region) that ought to be planned (Taylor 1998).

The 'rational process' regards planning as a method for reaching decisions was advocated by authors such as Webber (1963). It has its origins in corporate thinking and management, where changes in industrial planning thought led to the development of a decision-making science (Hall 1992). This view of planning seeks to improve the decision-making process to enable the making of more rational decisions. A rational decision can be described as "one where all the various alternative courses of action are considered, the consequences resulting from them are identified and compared, and preferred alternatives selected" (Ratcliffe 1981:117).

The 'systems view' of planning, promoted by McLoughlin (1969) and G. Chadwick (1971), considers cities, towns and urban regions as 'systems', recognising their complex nature. McLoughlin (*op cit*) described urban systems as *human activities* that occur within adapted *spaces* (buildings, arenas, parks, lakes, forests and so on) and are linked by *human communications* and *transport* (communications concerned with

[6] Here the term 'cybernetics' is used in the meaning: "a new way of organising existing knowledge about a very wide range of phenomena (Hall 1992:229)".

material interaction – goods and people). He emphasised the dynamic character of systems manifesting itself through continuous change.

The emergence of the 'systems' view of planning as well as the 'rational' view brought a huge shift into the way the future was approached and constructed in the planning processes. The future was no longer a fixed state within master plans, but it was recognised that different courses of action were possible. In other words, 'master' planning could be described as "planning with confidence and certainty towards a known end product" (Cherry 1974:81), and the 'systems' planning as "planning for uncertainty, simply making most effective use of existing resources and resisting dramatic interventions in the system to achieve some desired end (*ibid*)".

The 'systems' view of planning constituted the basis for the development of the cyclical planning process. This process (Fig. 3.1), proposed by McLoughlin (1969), has six basic steps as described below: examination of the environment; formulation of goals; study of possible courses of action; evaluation of possible courses of action; action, and review. *Examination of the environment* involves identification of certain needs or wishes, some of which might be fulfilled through the physical relationship with the environment. *Formulation of goals* includes the setting broad goals as well as some more detailed objectives that need to be reached in order to move towards the achievement of these goals. *Study of possible courses of action* comprises of the examination of possible courses of action and how to reach the objectives and move towards goals. *Evaluation of the possible courses of action* involves the assessment of the alternative courses of action against the available means, costs of overcoming the constraints, the likely benefits and foreseeable consequences of action. The *action* is taken on the basis of this examination. The action alters the relationship between people and environment as well as the environment itself and the way it is perceived. The environment is continuously scanned and new goals and objectives are formed and a fresh cycle begins. *Review* means that the cycle is completed and a new cycle starts.

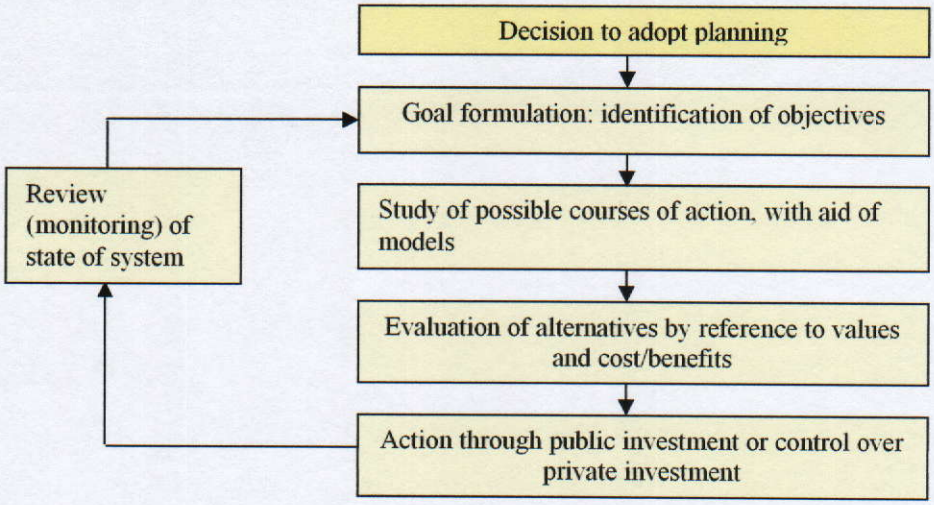

Fig. 3.1 The concept of a cyclic planning process by Brian McLoughlin (1969)

The cyclic planning process shared common phases with the 'rational' process. Among them are goal formulation, identification of objectives and the evaluation of alternative courses of action and implementation. Both processes incorporated need for ongoing feedback through review of goals, alternatives and actions (Taylor 1998).

An important issue in regard to the identification and evaluation of alternative courses of action were the methods used for that purpose. Among the main techniques employed, both in the 'systems' and 'rational' view of planning, were modelling and forecasting. Models, discussed earlier in relation to complexity (Section 2.1.3), were created to represent the behaviour of the system over time, both in the recent past and in the future. Planners used them to gain an understanding of the impact of alternative courses of action that may unfold (Hall 1992) or, stated differently, "to understand the forces that determine the size and nature of urban areas and the location of land uses therein" (Ratcliffe 1981:267). It is important to emphasise that models are primarily a research tool for gaining insights and understanding of complex urban process, and therefore, the attempts to use them in the generation of plans and policies raise methodological and philosophical doubts (Bracken 1981).

Models can be classified in many ways depending on their complexity or purpose. They can be used to consider interdependencies related to one element of the system or the whole system. Models can be descriptive (showing the current situation), predictive (forecasting future trends) or prescriptive (evaluating alternative policies and choosing among them) (Ratcliffe *op cit*). The main weakness of models is their static character in opposition to dynamic character of real systems (Hall 1992).

Forecasts, the predictions of future developments generated through application of various forecasting techniques, were recognised as essential inputs to decision-making and planning processes (Ratcliffe *op cit*, Wheelwright and Makridakis 1985). An 'explosion' of forecasting activity was observed in the 1960s and 1970s (Ratcliffe 2002a). The wider availability of computers encouraged their extended use in forecasting and contributed to the dynamic development of quantitative prediction techniques (Wheelwright and Makridakis *op cit*), such as mathematical models, simulation, system analysis, cost-benefit and cost-effectiveness analysis (Steiss 1974).

The huge popularity of forecasting observed in the 1970s brought a concern that forecasts, like models, can become solutions to problems instead of fulfilling their primary role of supporting and informing decision-makers (Couts 1969, Bracken 1981, Ratcliffe 1981). Couts (*op cit*) emphasised that decision-making should be based on the reliable thought process and analytical thinking, while forecasting and other techniques should enable generation of necessary information and analysis to assist decision-making. Bracken (*op cit*) stressed the necessity to understand the assumptions and information on which forecasts are based, as these assumptions and data continuously change.

The weak side of forecasting is its inability to warn about forthcoming events and changes. Great disappointments arose from considerable prediction errors that led to mistakes in decision-making and planning. The main weaknesses of forecasting that affected planning were: unexpected developments, foreseen events that never took place, errors in timing and the level of predicted changes. The limitations of forecasting are related to its nature, as the prediction process is based on the assumption that the future will be akin to the past and present (Wheelwright and Makridakis 1985).

The 'systems' approach has transformed planning activity, and consequently the way of approaching and constructing the future, in a number of significant ways. These are summarised by Taylor (1998) as follows.

- Planners accepted that it is important to know how cities work.
- It was realised that cities have a complex nature and changes taking place in one part of the city have repercussions for its other parts; therefore, any proposed new

development must be evaluated in terms of its probable effects on various elements and areas of the entire city.

- The recognition of continuity of urban change recommended that planning should be an ongoing process of monitoring, studying and intervening in flexible situations, and development plans ought to be more adjustable and flexible.
- It was necessary to consider all urban dimensions – social and economic as well as physical.
- Planning professionals were required to be trained in economic geography or social sciences rather than just architecture, engineering or surveying (Taylor *op cit*).
- It was also recognised that citizens should be 'consulted' and public participation encouraged (Healy 1995).

The first critiques of the 'systems' approach arose in the mid 1970s. The approach was criticised for a number of reasons. The scientific nature of the 'systems' approach suggested that the world could be completely understood and its future states predicted. This, of course, was far from the truth. This approach led to establishing the planner's role as the 'superior scientific expert'. There was a lack of public participation and consultation. And finally, the society was treated as 'homogeneous aggregate'. For instance, it was accepted that the welfare should be maximised, but there was no distinction between different spatial and social circumstances in distributing this welfare (Hall 1992).

3.3.4 The 1980s

In the 1980s planning theory in Britain was developing in a number of directions, such as 'implementation' theory, planning as 'communicative action', and 'problem-centred' planning (Taylor 1998). None of these theories brought significant changes to the way the future was approached and constructed but rather quite the opposite. Many seem to share an opinion that strategic planning was in 'limbo' (Healey *et al.* 1997, Saler and Faludi 2000, Albrechts 2003). This situation was an effect of policies of the Thatcher government, which involved the abolition of provincial metropolitan county councils that had hitherto served the functions of strategic planning authorities. These policies also intended a reduction in the role of public planning in favour of private

initiatives (Hall 1992). Andrew Isserman (1985) in his essay *Dare to plan* argued that planners have forgotten that the role of planning is to lead from the present to the future. He accused the planning profession of 'abandoning' its primary responsibility to inspire and inform about visions of probable and desirable futures in order to fulfil its problem-solving orientation and to actively participate in short-term activities such as budgeting, public/private land development, funding of social services, programme management and project administration. Isserman (*op cit*) distinguished several causes for the 'neglect' of the future in planning.

- Planning's shift from the architecture and design towards the social sciences and scientific methods.
- Budgets cutbacks and an atmosphere making idealism, visionary thinking and inspiration obsolete.
- The pressures arising from the daily job requirements.
- Planners scepticism and lack of confidence in their ability to think meaningfully about the future and to stimulate change.

Along with 'future neglect', a different approach towards the future was emerging in the United States and Canada, where visions and visioning were applied in urban planning in the early 1980s. Among the first places to use visioning was Tennessee, followed by other regions, including: Quebec (Canada), Washington, Oregon, Iowa, Illinois, Minnesota, Maine, Connecticut, rural New York, Massachusetts, Arkansas and the Carolinas (Shipley 1998). Visioning, "the notion of creating images of the future to serve as goals or guides for planning decisions" (Shipley 2002:7), involves the participation of citizens in imagining and to a lesser degree constructing the future (Puglisi 2000). The emergence of visioning indicated that a key transformation was taking place in two areas – the way of approaching and constructing the future and public participation in planning.

3.3.5 The 1990s to present

The decade of the 1990s and first years of the 2000s can be characterised, among other things, by a growing interest in the future dimension of urban planning. As Myers and Kitsuse (2000) put it:

> "Recent writers have proclaimed the future orientation of planning as unique to the field's identity and have called for renewed focus and development of future-oriented skills."

This is apparent in an 'explosion' of various projects and exercises using strategic planning as well as various futures methodologies in order to develop future strategies, visions and plans that would help urban territories to tackle their present problems and ensure prosperous future development (Albrechts 2003). A number of reasons can be listed to explain this shift: challenges posed by the contemporary change; competition between cities and urban regions; sustainability agenda; urban governance; and other.

Healey *et al.* (1995) point out that *contemporary processes of change* are characterised by instability, disruption, rupture, conflict, break ups and complex and adverse effects of transformations. The forces of change pervade transversely through all dimensions of society, reconstituting previous relationships between the economic, political and socio-cultural systems. Changes taking place in one dimension have repercussions for all other areas. Consequently, the challenge to urban planning is to cope with, adapt to and make sense of these changes (*ibid*).

One of the factors which has had profound effects on the urban development is the process of economic globalisation (Thornley and Rydin 2002). Due to trade liberalisation measures and rapid technological changes, which have been transforming the relations between production, distribution and consumption, national governments have a decreasing number of tools available to them for intervention into their economies. As *competition between cities* and urban regions seem to have become the main determinant for the development of urban systems, (Brotchie *et al.* 1995, Kresl 1995, Cheshire and Gordon 1995, EC 1999, Albrechts *et al.* 2003, Van der Berg *et al.* 2004 and others) the role of regional and urban governments in shaping the future of their territories is growing (Kresl 1997).

An important driver behind many future-oriented actions and projects are environmental concerns both globally, for example ozone depletion and global warning; and regionally and locally, e.g. flooding, desertification, air quality, water resources, waste management and the like (Thornley and Rydin 2002). Over last decade, the *agenda of sustainability* became one of the most recognised challenges for governments at local, regional, national, and global levels.

Changes in the financing of the local government, following reductions in national and local budgets, have led to the search for new forms of financing, such as joint financing among public institutions and between public and private bodies (PPPs). Additionally, new forms of multilevel *governance* have appeared as a result of changes in the government structures (Albrechts *et al.* 2003). An example of such a multilevel structure is the 'concertation' process which originated in France. 'Concertation' can be described as a process which facilitates the coherence between actors and partners viewpoints through the establishment of a social, political and/or administrative consensus (ENDA 2004). It can be also defined as negotiation occurring in the public decision-making processes taking place in urban planning (de Carlo 2003).

Cities, besides the issues discussed above, are also faced with *other challenges*. They need to anticipate and respond to the opportunities and threats arising from the social and cultural transformations, demographic change and the accumulation of social and environmental problems. In the face of globalisation and European integration, they often try to re-establish their local and regional identity and create a new image (Albrechts *et al.* 2003, Van der Berg *et al.* 2004).

In order to respond to the challenges discussed above, cities and urban regions have been increasingly applying various forms of strategic planning and other future-oriented approaches, for example Foresight and Prospective. Parrad (2004), who reviewed various projects representing futures thinking in European cities, has identified four different types of exercises: 'strategic planning' activities; 'strategic competitiveness' projects in order to increase economic competitiveness of cities and their regions; 'metropolitan projects'; and exercises driven by the agenda of 'sustainable development'. The reviewed projects vary as they refer to different traditions, are set in different local contexts, have different motivations and objectives, use diverse methodological approaches and look into short- to long-term futures. Despite all these differences, a number of common threads can be found. A strong need for these kinds of venture arise from the pressure for cities to position themselves within local and global context, as well as to improve their competitiveness, attractiveness, quality of life, and reorganise and enhance their governance systems. The projects are recognised as innovative and are, therefore, fragile. Often such new approaches and methods do not fit into standard institutions, which are needed to

support these projects. The main difficulties lie in the continuation of the mobilisation of actors and the complexity of project management (*ibid*).

Strategic urban planning. One of the most widespread types of futures-oriented activities in urban planning is strategic planning. Strategic planning has been used by business and the military since the 1950s (Mintzberg 1994) (see Section 2.4.4). In the context of urban planning, it can be described as:

> "... a social process through which local communities respond to internal and external challenges with respect to the management of local environments... local communities build new strategic ideas and policy discourses, build institutional relations, and mobilise political support." (Healey *et al.* 1997:293).

Strategic planning aims at the development of a long-term, comprehensive vision for the city or urban region, which comprises all urban elements: physical, economic, and social. It is not a process exclusive to planners, but its success depends on the inclusion of all major stakeholders (Tosics 2003).

The strategic planning processes used in business and other fields vary greatly among themselves. There is no one defined procedure for the strategic planning of urban territories either, but certain steps can be identified in all processes. According to Tosics (*ibid*) the strategic *urban* planning process (Fig. 3.2) starts with mission and value statements. Next the assessment of data, development of projections describing the internal and external environment and a SWOT analysis are performed. Then, a very general vision about the desired direction for the long-term development is constructed. This is followed by the preparation of the strategy on how to achieve this vision. Next, strategic goals are identified and specific programmes for achieving these goals are derived. Finally, the details of the programmes are worked out and concrete projects designed (*ibid*).

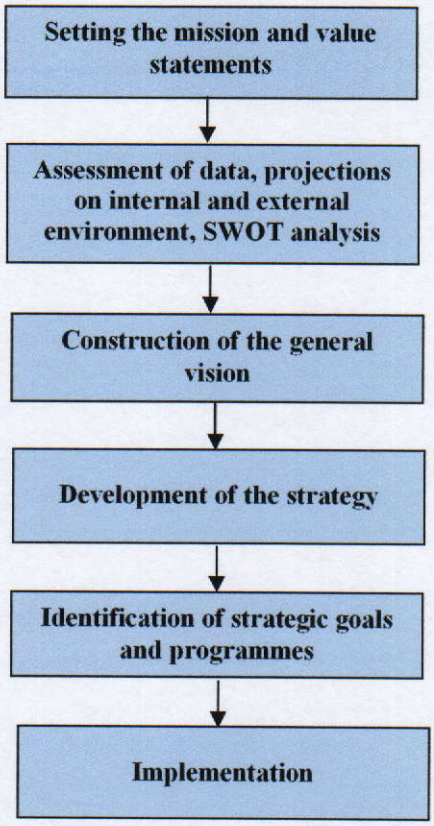

Fig. 3.2 Strategic urban planning process (diagram based on Tosics 2003)

An evaluation of the relevant literature reveals a vast number of cities and urban regions, as well as whole countries, performing various types of strategic planning. Among the cities that have developed future-oriented exercises are: Munich, Vienna, Budapest, Warsaw, Prague (Tosics 2003), Hanover, Flanders, Northern Ireland (Albrechts *et al.* 2003), Glasgow and the Clyde Valley (Goodstadt 2001), Vancouver, Hong Kong (Freidmann *et al.* 2004), Helsinki, Venice, Utrecht, Birmingham, Brno (Parrad 2004).

Strategic planning in Ireland. Ireland is not an exception and has examples of strategic planning at three levels: national, regional and local. The *National Spatial Strategy 2002-2020* (NSS) is a broad, long-term, comprehensive twenty-year planning framework for the Republic of Ireland. It was designed in order to achieve "a better balance of social, economic, physical development and population growth between regions" (DoELG 2002:10). The NSS is linked with the *National Development Plan* (NDP) (2000-2006), which provides a framework for the investment in areas such as health services, social housing, education, roads, public transport, rural development, industry, water and waste services, childcare and local development (DoELG 1999).

Strategic planning at the regional level is performed through the development of Regional Planning Guidelines (RPG). RPG are prepared through an agreed process between the Regional Authority and relevant local authorities. They set the strategic policy which should be considered by local authorities in their development plans. 'Strategic' in this context refers to those policy directions which transcend the boundaries of individual planning authorities and which relate to the role of the region in delivering the National Spatial Strategy. The *Strategic Planning Guidelines for the Greater Dublin Area* (1999) are a notable example of such a strategy.

The main form of planning at local level are the Development Plans prepared by each local authority for a period of five years. A mode of strategic planning, obligatory for each city and county, is the preparation and implementation of ten-year social, economic and cultural development strategies by County and City Development Boards (CDB). County and City Development Boards were created in order to "bring together for the first time the key players at local level to engage in a process of long-term planning for the county or city for the next ten years" (DoELG 2000:2). The CDBs comprise representatives of local authorities, local development agencies, state agencies and social partners.

The projects described above are led by national government policy. Others, such as *Cork Area Strategic Plan 2001-2020*, are an initiative of local actors. The *Cork Area Strategic Plan 2001-2020* was prepared in co-operation between Cork City Council and Cork County Council in a response to economic growth and a need to adapt in order to compete in rapidly changing international markets. Many planners recognise the plan as a very good example of strategic planning (Cussen priv. comm. 2004, Devitt priv. comm. 2004, Bannon priv. comm. 2005).

Futures methods in urban planning. Over the past two decades, the urban planning profession has increasingly been reaching to the futures field in a search for methodologies and techniques that could be used in urban planning. Cities like Lyon, Barcelona, Bilbao, are being recognised as 'flagship' examples of the successful application of a futures approach in planning (EC 2002, Ratcliffe and Krawczyk 2004). Other cities, such as Lincoln, use futures approaches (Prospective Through Scenarios) but on much smaller scale in comparison to those listed earlier. Many cities also use individual futures techniques, such as scenarios (Edinburgh, Gipuzkoa, Göteborg),

visioning (Amstelveen), Delphi survey (Malaga), however, it is difficult to say whether their overall approach is a 'futures' one. At this point it is necessary to stress that there is no clear classification that would allow distinguishing which projects are 'futures' ones and which are 'strategic' ones. The judgement is usually based on the opinions of experts and an analysis of the whole process in regard to methodology, parties involved and the like.

The futures exercises undertaken by towns, cities and regions vary in regard to their aims, structures, budgets, timescales, time horizons, and methodologies. Most of them are based upon informal approaches and face difficulties arising from their innovativeness (Parrad 2004). Despite the differences between the projects a number of common threads can be identified, as discussed below.

- A driving force behind the projects is a strong need for gaining control over the future of the territory. This need can arise from a necessity to deal with the existing problems, a requirement to improve economic competitiveness and re-brand, an aspiration to achieve sustainable development, or often a mixture of the above (Parrad *op cit*).
- Development of the preferred future is based upon mobilisation and collaboration between all actors and stakeholders within the region.
- The urban territory is approached in a holistic and integrated manner.
- The importance of the actual process is equal to the importance of the final product. In many cases the main interests in the projects lies in more indirect results, such as raising the awareness and building social networks (Parrad 2004).
- Frequently the projects are initiated as a result of a strong individual or institutional leadership (Ratcliffe and Krawczyk 2004).

Four cities – Lyon, Barcelona, Bilbao and Vancouver – have been chosen to demonstrate how futures approaches can successfully be employed by cities. All of them have explored possible future alternatives and have developed a preferred vision(s) of their future through processes based on the active collaboration of all major stakeholders. Urban territories were explored in a holistic and integrated manner and considered within local, regional and global contexts. The cities used long-term and very long-term (100 years in the case of Vancouver) time horizons. Lyon, Barcelona and Bilbao are some of the most widely recognised cases of the application of futures methodologies in urban planning; while Vancouver is unique in regard to its

methodological approach and the time horizon chosen. The detailed reviews of these exercises are presented in Appendix 2.

3.3.6 Historical evolution - synthesis

During the last century, planning activity has been greatly transformed. The changes in its approach towards the future are presented in Table 3.2. In the 19th century and in the early decades of the 20th century, idealised future images of the physical aspect of cities were developed by visionary architects and urban designers in order to guide current actions. These visions had little or no regard to economy and politics, and their relationship with society was based on physical determinism. With the development of planning theory and practice, increasingly more attention was given to the social and economic dimensions of cities as well as the recognition that change should be controlled and directed. The future was enclosed in 'blueprints' or 'master' plans until the mid-1960s.

Introduction of the 'systems' view and 'rational process' view of planning has brought significant changes to the way of thinking about urban territories and the future. Cities and towns started to be seen as systems – interconnected and comprehensive entities. It was recognised that the future can take many different courses, and an exploration and evaluation of possible courses of action was required. As the process replaced the 'master' plan the future was projected rather than envisioned. Forecasting and modelling became the main methods for an exploration of the future courses of action. The need for public participation was recognised, but not fulfilled. Forecasts of the future states of various urban components were the main base for planning through the 1980s, when the future orientation of planning was in limbo. The emergence of visioning activities in USA and Canada demonstrated a need for greater public participation in the planning processes as well as directing the attention of the planning profession towards the future.

	Up to 1945	1945-mid 1960s	Mid 1960s and 1970s	1980s	1990s - present
The way of thinking about future	Visions of the future - physical states of cities enclosed in blueprint plans	Future as a fixed known end presented in a form of master plans	1. Recognition that future can unfold differently 2. Exploration and evaluation of possible courses of action	1. Future orientation of planning pushed away 2. Visions of future created with participation of citizens (USA, Canada)	1. Renewed interests in future-orientation of planning 2. Future seen as uncertain, with many possible alternatives
Attitudes towards change and complexity	1. Little or no attention given to change 2. P. Geddes pointed out that planning should take the processes of change into account	1. Control and regulation of the pace and direction of change 2. Lack of recognition for complexity	Recognition of complex and dynamic nature of cities, as well as the uncertainty of the future	Complex and continuously changing nature of urban territories	1. Recognition of instability, rupture, discontinuity and accelerating pace of change 2. Complexity of cities and the world within they operate 3. High degree of uncertainty
The way of thinking about the city and its various dimensions.	Focus on the physical aspect of cities underlined by 'physical' determinism	1. Main focus on the physical planning and design of land use and built form 2. No relation to economy, apolitical	Cities treated as systems including physical, social, economic and political dimensions	Cities as systems	City as a comprehensive whole
Methods and techniques used for the exploration of the future.	1. Personal visions of the future prepared by architects or engineers 2. P. Geddes's approach: 'survey-analysis-plan'	1. Planning based on 'survey-analysis-plan' approach 2. Projections for population and transport	Modelling Forecasting	Forecasting Modelling Visioning First 'swallows' of strategic planning and futures methods	Forecasting, Modelling Strategic planning Visioning SWOT analysis Scenario analysis Various futures approaches and methods
People and institutions involved in the planning process.	Architects, Urban engineers Emergence of the planning profession after the I World War	1. Architects, Engineers, surveyors working as planners 2. Increasing number of geographers, economists and sociologists among planners	1. Planners as 'superior scientific experts' trained in social sciences and economic geography 2. Recognition of a need for public participation and consultation	Planners Democratic representatives Public participation and consultation	Local government Planners Raise of collaborative planning involving all major stakeholders

Table 3.2 The evolution of the approach towards future in urban planning (summary prepared by the author)

The decade of the 1990s brought a renewed interest in the future orientation of planning. A new context for urban development created by processes of globalisation, the sustainability movement, and changes in the governance systems (underlined by increasing complexity and uncertainty of change), forced cities and urban regions to look for new improved ways of approaching and constructing the future that would enable them to deal with present problems and prepare effectively for the future. As a result, urban territories have been engaging in various forms of future-oriented activity using strategic planning and different futures approaches and methods. In such exercises, cities are increasingly treated in an holistic way and with reference to the global context. In addition, it has been increasingly recognised that there is a need for the active participation and collaboration of all major actors and stakeholders within the city and region.

3.4 Planning and the futures approach

Planning like Futures Studies, discussed in detail in Chapter 2, is primarily concerned with the future. Both activities deal with ambiguous, multifaceted, and contentious issues, for which the outcomes are complex and uncertain. Their purpose is to provide 'better futures', while avoiding undesirable risks. Futures Studies and planning both share ethical dilemmas of representation and manipulation that arise from the way they operate, and the methodological difficulties of balancing a wide range of information, methods, participants and attitudes (Cole 2001). Despite these similarities, the way of thinking and approaching the future by the planning profession differs greatly from the one practised by futurists. Here, an attempt to compare both approaches in regard to their general concepts, ways of approaching the future and methodologies is made. The final part of the section investigates weaknesses of contemporary planning in relation to the future and identifies possible ways in which futures methodologies and techniques can assist urban planning.

3.4.1 Planning versus futures approach

General concepts. Futures Studies is a discipline that aims "to discover or invent, examine and evaluate, and propose possible, probable and preferable futures" (Bell

2003:73), while planning can be defined as "the making of an orderly sequence of action that will lead to the achievement of a stated goal or goals" (Hall 1992:3). Jordi Serra (2001) argues that there is an hierarchical difference between Futures Studies and planning. 'Futures Studies' is a discipline with an intellectual domain and tools to apply it, while planning is 'first and foremost a method', one of the tools that can be used by Futures Studies in order to implement the selected future (Serra 2001). In other words: "the 'futurists' responsibility is to help people to articulate their beautiful dreams, and planners' responsibility is to help make those dreams come true" (Cole 2001:373). Although Serra's view can be counter-argued, as urban planning is seen as a discipline with well-developed theoretical and practical foundations, it is important to remember that, in this context, planning is considered in relation to one of its aspects in particular – the approach towards the future.

Another notion of planning, which many (Ventura 1998, Serra 2001) see as a link between planning and Futures Studies, is strategic planning. It can be defined as "methodology, which describes the use of the available resources an organisation has at hand so as to obtain a given result" (Ventura 1998:35). Futures Studies and strategic planning can be considered through their relationship. Ventura (1998) argues that the relationship between the two can be approached from three different angles, as stated below.

1. Futures Studies *versus* planning – where there is a differentiation between these two fields;
2. Futures Studies *ante* planning – where Futures Studies are considered as a preceding phase in the planning process;
3. Futures Studies *ad* planning – where Futures Studies are integrated with strategic planning in such a way that the former is present in each phase of the latter (Ventura 1998).

Ways of approaching the future. Practitioners of Futures Studies recognise that the future can unfold in many possible ways. They aim to open the scope to look further and broader into the future, and from different mental perspectives, in order to increase the chances of detecting all the possible variables and imagine their progression as far as possible. Conversely, planning seeks to reduce and converge the scope, concentrating the efforts on transforming it into a specific objective and schedule it in a reasonably short horizon, so as to ensure its fulfilment to a certain degree. The

specific objective is usually derived from the analysis of a few possible alternatives, such as an existing trend case, a desirable alternative and a worst-case option mixed with a number of wild cards (Serra 2001, Ratcliffe 2002b).

Futures Studies recognise that "the future will not be an extension of the past" (Ratcliffe 2002b:9), but the past is used to guide present actions and to form images of the future (Bell 2003). Understanding the past, the values, the motivations and the situations shaping human activities is used to comprehend how the present is formed and how the future can unfold. Too often traditional planning creates a perceived future through the processes of projection and forecasting of the existing trends (Myers and Kitsuse 2000). Consequently, planning tends to strengthen the continuity of present trends into the future, and makes it more difficult to imagine alternative courses of action (Serra 2001).

Methodologies. The concepts of change, complexity and uncertainty (discussed in detail in sections 2.1.2 and 2.1.3) are key notions in Futures Studies. Futures methodologies and techniques (explored in Section 2.4) have been developed in such a way as to enable an effective exploration and examination of future possibilities in situations of increased levels of uncertainty caused by the accelerating pace of change and growing complexity. Futures methodologies deal with a fairly large range of possibilities in a systematic, comparative and systemic fashion (Cole 2001). An ability to understand how multiple trends may extend forward and interact with each other, thereby constructing new possibilities and patterns of behaviour, is all too often absent from planning approaches (Myers and Kitsuse 2000). Planning attitudes are usually unidimensional (*ibid*) and lack the flexibility required to deal with multi-faceted and rapidly paced change (Ratcliffe 2002b). Futures Studies represents a systematic, holistic and integrated approach, while the traditional planning approach, based on observation, measurement and logical analysis, is mechanistic, empirical and rationalist (*ibid*).

3.4.2 Planning deficiencies

The deficiencies of the urban planning approach towards the future have increasingly been debated in recent years. Although developments in the planning theory attempt to address the needs arising from the changing context, in which planning operates, major

weaknesses in the practice and reality of planning are observed. These weaknesses (Fig. 3.3) have been identified by various authors and are discussed below.

Contemporary cities continuously undergo rapid, profound and unpredictable changes (OECD 1994). Planners, operating in the complex environment, comprised of many interconnected elements, are constrained by lack of certainty as to the future consequences of planning actions as well as to the effects of change in general (Myers 2001). Often traditional planning techniques developed "in a lineal and incremental world do not have the flexibility needed to address multi-faceted and rapidly paced change" (Ratcliffe 2002a:9).

Projections and forecasts, especially population projections, are used for planning in many areas, such as education, health, transport, and land use. Projections are criticised for: (a) under-representation of uncertainty, what effects robustness of plans based on them; (b) being 'univariate' and not giving much attention to the complex interactions within and between urban dimensions; (c) focusing on measurable variables, such as economic, demographic and environmental, and underplaying the less tangible ones, like social, cultural and political; and (d) rejecting the imagination by attempting to concentrate on what *will* be, rather than what *could* be (Cole 2001). Forecasters have often been criticised for failing to present the assumptions on which forecasts have been developed, and for stating the results of forecasts without presenting alternatives arising from the changes of the input variables (Wachs 2001). They are also criticised for using unrealistic assumptions, such as that in the *Dublin Transportation Study* of 1971, where one of the 113 assumptions included 'constant energy prices' (Foras Forbartha 1972). Planners have been also blamed for using projections as if they described the most probable future, and as if this future was desired (Isserman 1985). Myers and Kitsuse (*op cit.)* warn about planners who might introduce judgement into an analysis that causes the projection to support a preferred future. This can lead to unethical manipulation of projections in order to support objectives desired by interest groups as well as by planners.

For many years urban planning has mainly been focused on shaping the physical form of cities and the provision of necessary services. Planning activities included budgeting, land development, funding of social services, project management and other short-term activities (Isserman 1985). Myers and Kitsuse (*op cit.*) argue that the strong focus on spatial analysis has often led to a neglect of the future aspect. Although

space and time are two essential dimensions for describing the world, it is difficult to concentrate on both simultaneously. Furthermore, for a long time, planners have had a tendency to use land use maps and other spatial methods to envision the future of cities (*ibid*). Consequently, techniques for spatial analysis and territorial planning have advanced greatly, in contrast the methods for tackling the time dimension of planning (Myers 2001, Ratcliffe 2002a).

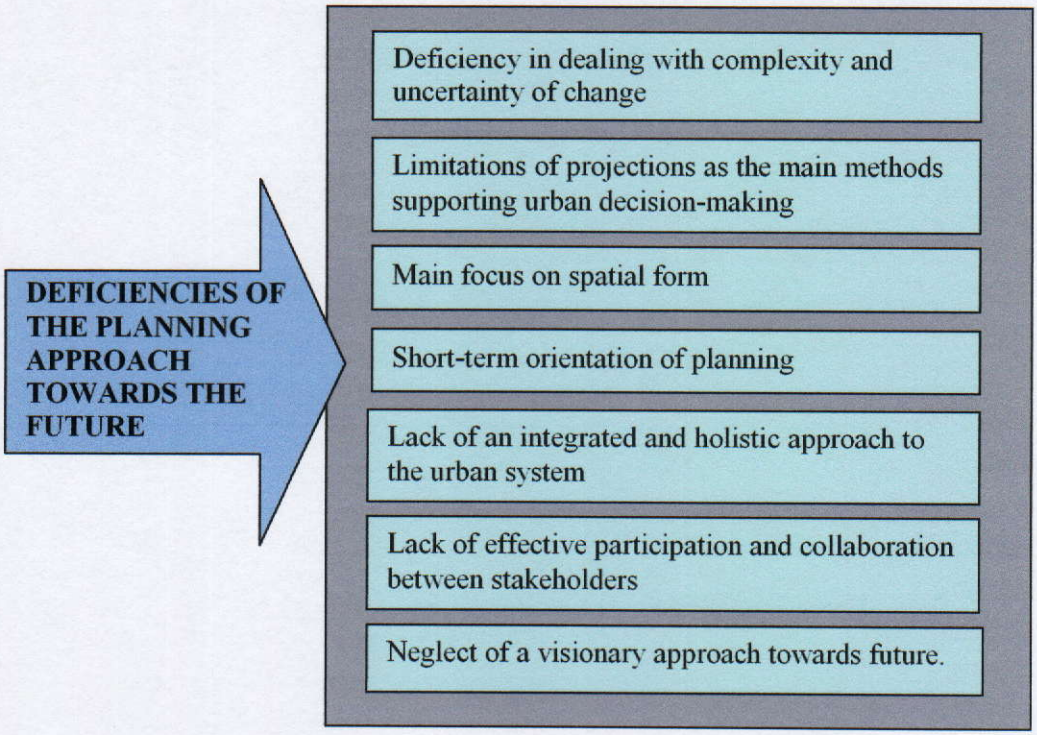

Fig. 3.3 Deficiencies of the planning approach towards the future

The short-term focus of planning activities has been reinforced by planners efforts to strengthen the political relevance of planning and the need to respond to the crisis on the ground. Being more 'politically relevant' meant greater influence of short-term budgets and the short-term horizons of the electoral process over planning activities (Myers and Kitsuse 2000, Myers 2001). The short-term orientation of planning has also been strengthened by the limitations imposed by social science "that directs the attention only where data exist – in the past, not the future" (Myers 2001:366).

A common planning practice is the separation of the physical form from the social, economic, cultural and environmental dimensions, instead of treating all these aspects in an integrated fashion (Gaffikin and Morrisey 1999). Consideration of different urban elements separately often leads to neglecting the important connections and

interdependencies between them which results in ineffective policies and poor decisions. Plans developed in one sector rarely relate to the wider spatial impacts of other activities and policies, and usually implement only a single sectoral perspective (Koresawa and Konvitz 2001).

Decisions about the future involve gaining agreement among a great number of stakeholders, many of whom vary in their valuations of key factors and hold different, often emotionally based, views (Myers 2001). Although the topic of 'collaboration' is becoming more and more important in planning thought (Puglisi 2000), along the lines of Patsy Healey's concept of 'collaborative planning' (Healey 1997), the typical planning approach is not very well suited to 'managing' participation and collaboration, as it comprises techniques designed for experts and trained professionals (Serra 2001). There is a need to build "convergence of values and meanings that go beyond the specialised knowledge of a few experts in order to investigate the diversity of experience, attitudes and values of different groups and communities" (Puglisi 2000:2).

Many authors have pointed out the lack of visionary approach towards the future (Isserman 1985, Brooks 1988, Myers and Kitsuse 2000, Ratcliffe 2002a). Isserman (*op cit.*) argued that all too often planning 'has lost sight of the future' and it lacks a vision that would lead the present to the future. As mentioned earlier (section 3.2.4), among the factors to blame for such a situation are: a shift from thinking and planning the cities with a vision, to planning with use of scientific methods and financial mechanisms blocking idealism and visionary thinking. It has also been claimed that planners are "institutionally caged in a cautious and conservative role and they don't wish to appear too off-the-wall to policymakers who want concrete answers" (Cole 2001:373).

3.4.3 Futures methodologies in support of urban planning

Futurists have identified urban planning as an area where a future orientation is most required (Myers and Kitsuse 2000). An explosion of various strategic and future-oriented exercises over the past two decades reinforces the view that a strengthening of the future dimension of planning is necessary. In addition, a requirement to expand and

upgrade the planning toolkit for addressing the future has been recognised (Myers 2001). It can be claimed that there is a need for:

> "a new synthesis of skills that includes all of the lessons of the modern era – political relevance, public inclusiveness, quantitative technique, narrative, openness of communication, and more – while recovering lost emphases from the past." (Myers and Kitsuse 2000:8)

Increasingly, it is being acknowledged that the application of futures approaches and methods can be greatly beneficial for urban planning (Puglisi 2000, Myers and Kitsuse 2000, Cole 2001, Serra 2001, Ratcliffe 2002a, Parrad 2004). Futures methodologies can contribute to more imaginative and holistic planning and to manage a wider range of possibilities in a systematic, comparative and global fashion (Cole 2001). In an era of accelerating change and increasing complexity and uncertainty they offer a rigorous, comprehensive and integrated approach towards urban planning, relying more on intuition, participation and adaptability (Ratcliffe 2002a). Futures approaches, moreover, can constitute a platform for collaborative planning. A collaborative process helps to develop effective solutions and ensure that the ownership of the solutions is embedded in the community so that they will be implemented (Cities PLUS 2004). Futures approaches enable the development of preferred visions of urban futures through mobilisation, bringing together and networking the key stakeholders and sources of knowledge (FOREN 2001).

3.5 Synthesis

Urban planning, an activity aiming to shape cities and towns, is concerned with two main dimensions – space and time. Over the years, planning theory and practice has evolved from the 'master planning' through the 'systems' and 'rational' view of planning to modern multidirectional planning. Also, the planning approach towards the future has changed – from grand visions of the physical aspect of cities, through an acceptance that cities are systems and recognition of change and complexity as features shaping the urban environment, to a renewed interest in strategic and future-oriented planning in recent years.

Despite the fresh interest in a future orientation, planning has been criticised for its ineffective ways of tackling the time dimension. Deficiencies of planning methods in

dealing with complexity and uncertainty of change, lack of an holistic approach towards urban territories, short-term orientation of planning and lack of effective collaboration between key actors are listed, among others, as main shortcomings of planning. A need to improve existing methods and develop new approaches for tackling the future dimension has been strongly advocated. Futures Studies has been identified as a field that can provide a range of methodologies and techniques that can be adopted and adapted by urban planning. Both fields share a number of features – they deal with uncertain, complex and contentious issues and their purpose is to create better futures. Although they share the same concern for the future, they have a completely different theoretical approach.

It is increasingly being recognised that futures methodologies can contribute to more imaginative and comprehensive planning and assist planners in exploring a wide range of possibilities in a systematic, rigorous and holistic manner. These methodologies provide a means not only for an examination and assessment of future possibilities, but also for the creation of preferred futures in a collaborative process, engaging and gaining agreement between all sectors and sections of society. Futures approaches can also assist in creating a platform for thinking and learning about the future. In order to fully utilise the potential of the futures field in urban planning, the development of more formal methods for futures thinking is required.

4. METHODOLOGY OF THE STUDY

4.1 Introduction

In a very broad sense, this thesis explores futures thinking in city planning processes. In more specific terms, it attempts to address two main questions[7] and fulfil the main aim of the research formulated on the basis of these questions. This aim is to develop a future-oriented methodology that would encourage and facilitate a shift in the way of thinking and acting about the future of cities. This chapter deals with all aspects of the methodology used in the research starting with the overall methodological framework. It presents the main research questions and objectives and demonstrates the methods that were used to fulfil them. The chapter discusses the individual methods used for data collection and the issues related to their choice. It also presents methods used for data analysis and presentation.

4.2 The overall methodological framework

The general issues related to the methodological framework were initially introduced in Chapter 1 (Section 1.3). Here, the overall methodological framework is presented and discussed in detail. There are four main elements to this framework (Fig. 4.1): qualitative character of the research; ethnomethodologicl roots; case study as the main strategy of inquiry; and the concept of crystallisation.

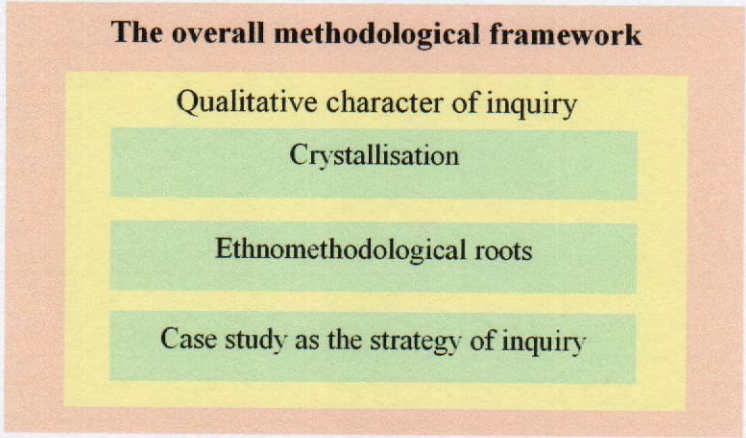

Fig. 4.1 The overall methodological framework

[7] 1. What is the role of futures methods in city planning processes?
2. In what ways the application of futures thinking and methodologies can improve these processes?

4.2.1 Qualitative character of the research

The main focus of this study is placed on the development of a future-oriented methodology together with an understanding of the context and the requirements for its application in urban planning processes. The use of qualitative methods is inevitable in a study that deals with ways of thinking, opinions and perceptions, and the future. One of the aims of the study is the development of an understanding of how the future of cities (case study of Dublin) is being created, and in which way a futures approach could enhance urban planning and decision-making processes. In-depth interviews with key decision-makers and planners were identified as the most suitable method that enables collection of the most comprehensive and extensive data on the matter. Again, the information generated has a quintessentially subjective character as it is based on the experience, opinions and beliefs of interviewees.

The study is about the futures thinking. The knowledge generated within the Futures Studies field inherently has a subjective character. There are no hard facts about the future. Most of the knowledge about what lies ahead is based on the assumption that it would largely resemble the past and follow an extrapolation and analysis of present trends. It is knowledge based on speculation, speculation on the degree of the resemblance to the past and possible breaks in these trends. This knowledge is built upon subjective opinions and assumptions. The futures approach is not only about studying possible futures and acting in accordance with the results of that study. It is also about a realisation that the future can be created, and thereby establishing what turn of events is desirable and what visions, values and aspirations should underlie the choices being made today.

Qualitative research involves gathering a whole range of different materials, including texts, personal experience, interviews, observations and images that portray procedures in order to gain a better understanding of the subject matter (Denzin and Lincoln 2000). The issue of validity needs to be given attention, while discussing methods of data collection and analysis in qualitative research. The examination of broad literature has shown that issue of validity is an object of a heated discussion among qualitative researchers (Wolcott 1990, 1995, Donmoyer 1990, Janesick 2000). Janesick (2000:393), who sees validity along with reliability and generalizability, as an attribute of credibility, points out that "validity in the quantitative arena has a set of technical

micro-definitions, and the reader is most likely aware of those." However, validity in qualitative research is rather related to description and explanation. It can be described as a check whether "explanation fits the description", or "is the explanation credible". Janesick (2000) argues that qualitative researchers do not claim that there is one 'correct' interpretation of the matter, but rather try to ensure that explanation is credible. This is also the aspiration of the author of this study.

Hammersley (1990) proposes that two essential elements of validity are plausibility and credibility. Plausibility is related to deciding whether a claim or a statement seems plausible. The claims that seem to be plausible can be accepted as likely to be true, while others require a presentation of evidence. To assess credibility, a judgment about the credibility of a claim or a statement must be made, considering the nature of the phenomena examined and the circumstances of the research. Hammersley (*op cit.*) recognises that when the claim does not seem to be plausible or credible, then the evidence is required.

Denscombe (2003) discusses issues of objectivity, reliability and validity in relation to the justification of methods and conclusions. The key issue related to objectivity can be outlined "as one of relative neutrality and reasonable freedom from unacknowledged researcher biases – at the minimum explicitness about the inevitable biases that exist" (Miles and Huberman 1994:278). It is important to recognise the role of 'self' in qualitative data analysis. There is a growing acceptance among qualitative researchers that while analysing qualitative data it is very valuable to explore the ways, in which the researcher's personal experiences and values might influence the results (Denscombe *op cit.*).

Although, the author of this thesis has tried to be as objective as possible during data collection and analysis, she recognises that there are inherent limits to her objectivity. A number of issues that may have led to bias can be distinguished. The first one is the fact that the researcher is a strong supporter of futures thinking and futures methods, and despite her attempts to be objective, an unconscious bias might have been at play. The second one is related to the affiliation to The Futures Academy and Professor Ratcliffe. This affiliation was made known to the interviewees and questionnaire respondents. As The Futures Academy and Professor Ratcliffe are well known in Dublin and Ireland as advocates of futures thinking, knowledge that the researcher is

affiliated to them might have influenced interviewees' responses to some, rather small, degree.

The third issue is related to the fact that in four out of five case studies examined in this thesis the author performed the role of researcher and actor at the same time. Being an actor in the *Dublin 2020 Vision* project involved recording the results of the workshop, taking notes from group meetings, collecting information from the Working Group and drafting the vision document. The researcher had no influence over the choice of methodology or the way the exercise was conducted. Her role could be described as a secretarial role. In the case of *Development of community indicators in Ballymun* the researcher came up with an idea of the local future newspaper and she was also involved in planning the second workshop. In the *Dublin - Belfast economic corridor* study she was a part of the research team, which designed the project and carried out the study, therefore the author had some influence over the way the exercise was conducted and what results were achieved. *Mobile and accessible Dublin* exercise was developed, organised and carried out solely by the author. The second role, researcher role, involved observation and taking notes about different aspects and elements related to each of these projects. Recognising that acting in these two capacities simultaneously could develop bias and distort neutrality and objectivity the author attempted to collect mainly factual information and also to question observations of non-factual nature. For example, while evaluating the design of the Prospective workshop in the *Mobile and accessible Dublin* exercise she questioned her perceptions about strengths and weaknesses of the process from as many angles as possible.

The criterion of reliability, in its classic meaning, is "whether the research instruments are neutral in their effect, and would measure the same result when used on other occasions" (Denscombe 2003:273). However, in qualitative research, the researcher is an integral part of the research instrument. The issue of reliability, then, can transformed into the following question: "If someone else did the research would he or she have got the same results and arrived at the same conclusions?" (*ibid*). This question though could never be answered with certainty. In order to ensure a certain degree of reliability in qualitative research, Denscombe (2003) suggests that a researcher should provide a clear explanation of the following:

- the aims of the research and its purpose and theory;

- how the research was undertaken; and
- the reasoning behind key decisions made.

The author of this thesis tries to implement these suggestions throughout this Chapter.

Validity of the findings can be ensured in a number of different ways, for example using triangulation or crystallisation, which are discussed in detail in the next section. Once again, Denscombe (*op cit.*) proposes a number of checks that can be undertaken to validate the findings. Among them are:

- check whether the conclusions do justice to the complexity of the phenomenon being investigated, while offering internal consistency;
- the recognition of the researcher's self as an influence in the research, but ensuring that reporting was unbiased;
- explicit and reasonable grounds for the selection of instances to be investigated;
- the exploration of possible alternative theories;
- triangulation of findings; and
- the correlation of findings and conclusions to the existing knowledge on the area.

The ways, in which the author of this study tackled the issue of validity, are presented in further sections.

4.2.2 Crystallisation and triangulation

Triangulation is a concept often discussed in the qualitative research literature in relation to the issue of validity. *Methodological triangulation* could be described as "the use of multiple methods to study a single problem", while *data triangulation* is "the use of a variety of data sources in a study" (Denzin 1978, Janesick 2000:391). Denzin (*ibid*) identifies also *investigator triangulation* – "the use of several different researchers or evaluators" and *theory triangulation* – "the use of multiple perspectives to interpret a single set of data". Methodological triangulation could be also described as a way to validate findings by deploying different methods, such as interviews, documents, surveys, observation (Richardson 2000).

In recent years, the triangulation approach is often supplanted by the concept of crystallisation. In triangulation, a researcher employs different methods, e.g. interviews, census data and documents, to validate findings. The use of methods in

triangulation is based on the assumption that there is a 'fixed point' or 'object' that can be triangulated. Crystallisation accepts that there are multiple facets related to one problem (Janesick 2000). It recognises that "there are far more than 'three sides' from which to approach the world" (Richardson 2000:934). Richardson (*ibid*) proposes crystallisation instead of triangulation as a 'central imaginary' for validity. He portrays the 'central imaginary' in the following way:

> ...the central imaginary is the crystal, which combines symmetry and substance with an infinite variety of shapes, substances, transmutations, multidimensionalities, and angles of approach. Crystals grow, change, alter, but are not amorphous. Crystals are prisms that reflect externalities and refract within themselves, creating different colours, patterns, and arrays, casting off in different directions. What we see depends upon our angle of repose." (Richardson 2000:934)

In Richardson's (*op cit.*) view, crystallisation deconstructs the traditional idea of 'validity' and provides a deeper, more complex, and 'thoroughly partial' understanding of the phenomenon. Crystallisation seems to represent the many intricacies that are discovered from rich data that reflects different angles at different points in time and from different perspectives (Eloff *et al.* 2002). Crystallisation recognises that the same research topic can be approached differently by various researchers depending on the nature of their science knowledge, the content they consider and purposes and goals of their consideration. In summary, crystallisation is a concept that provides a basis for the development of in-depth, complex and completely partial understanding of a research problem. It recognises that the individual points of view and perspectives from which a researcher approaches a given problem will influence the development of an understanding of the problem.

The issues of validity were carefully considered in this research. Initially, the researcher indented to use triangulation to ensure validity. However, the study of the literature on methodological issues and the reflection upon the overall research strategy implemented led to the realisation that crystallisation is a more appropriate approach than triangulation. The author used multiple research methods in this study what is often characteristic for triangulation. However, her main intention was to provide insights about the investigated topic from as many perspectives as possible, rather than to use different methods for triangulation purposes solely. In-depth interviews, survey

and documentary research were used to develop the understanding how the future of Dublin is being shaped and the role futures methods could play in enhancing the urban planning processes. The current application of futures methods in planning processes in Dublin was examined using observation, in-depth interviews and documentary research. The Prospective methodology model was developed on the understanding built upon the data generated through application of all the above methods.

4.2.3 Ethnomethodological roots

The ethnomethodological roots of this research were already briefly discussed in Chapter 1 (Section 1.3). Ethnomethodology looks at activities, circumstances and social reasoning as topic of empirical study (Garfinkel 1984). In sociological terms, ethnomethodological studies examine the integral 'methods' used by the members of society for accomplishing everyday reality. This research investigates the methods used by actors and stakeholders involved in urban planning processes for the creation of the future of a city. It attempts to uncover the practical activities, circumstances and reasoning that underlie future-oriented planning and decision-making.

Ethnomethodologists attempt to document how recognisable structures of behaviour, systems of motivation, or informal connections between systems of motivation, or social structures are observable in the reasoning of society members (Zimmerman and Wieder 1970). The creation of the future of a city is a very complex process, which involves formal and informal structures, methods and motivations. If one attempts to encourage and bring about the change of the mindset and behaviour, first, one has to understand the less tangible connections between the formal and informal structures, motivations and drivers. The future of cities is created by a number of different players, who are driven by different goals and aspirations and between whom various types of relationship exist. The detection of the 'activities', 'circumstances' and 'reasoning' has been recognised as an integral part of this research, and, therefore, it is important to acknowledge that roots of this study are embedded in the ethnomethodological approach.

4.2.4 Case study as the overall strategy of inquiry

The reasons for choosing case study as the overall strategy of inquiry for this research were outlined in Chapter 1 (Section 1.3). Also the *instrumental* character of case study was discussed and choice of Dublin as the case study city was briefly explained. Here, the main advantages and disadvantages of case study approach are discussed, as well as issues related to the choice of Dublin as the case study city, such as the basis of selection and boundaries, considered in detail.

It is quite obvious that the advantages of case study approach were among the reasons why this strategy of inquiry was chosen. Just to recapitulate the reasons presented in Chapter 1, case study approach:

- allows focusing on one or few instances and enables a researcher to deal with nuances and intricacies of a complex situation;
- encourages the use of multiple methods in order to understand the complex phenomenon that is being investigated;
- together with the use of multiple methods, it fosters the use of multiple sources of data; and
- is conducive to research where the researcher has no or little control over the investigated phenomenon, as it is concerned with investigating phenomena as they naturally occur (Denscombe 2003, Yin 1984).

While using the case study approach it is necessary to be aware of its limitations, so they can be addressed in the research. Denscombe (*op cit.*) recognises the following disadvantages of the case study approach: criticisms in relation to the credibility of generalisations; the lack of the degree of rigour expected of social science research; not clear boundaries of the case; possible difficulties in accessing the case study settings; and a risk of the 'observer effect' taking place. Case study approach is often criticised in relation to the *credibility of generalisations* made from its findings. In order to avoid this criticism, the researcher should carefully demonstrate the degree to which the case is similar or different with others of its type. This is addressed by the author in the further part of this section. Another important criticism is related to the fact that the case study usually produces 'soft data', as it concentrates on processes rather than measurable end-products. This, in eyes of some researchers, means that the approach lacks the *degree of rigour* expected of social science studies, and is generally accepted

in studies providing descriptive accounts, but seen as rather inappropriate for analysis and evaluations. In order to address these preconceptions, a researcher should give careful attention to detail and rigour in the use of the approach. The author deals with this challenge through a detailed description and justification of the methods used (*ibid*).

The issue of the *case boundaries* poses difficulties in terms of deciding what sources of data to incorporate and which should be excluded. This issue is addressed by the author in further part of this section. Another problem that can be encountered while using the case study approach is related to the *access to the case study settings*. Withdrawal of permission to access people, documents and settings can create difficulty for the study. The access to the case may also generate ethical problems. In this study, the author did not encounter major problems related to the access. However, some minor difficulties, such as lack of agreement for an interview from a number of people representing media and academia (see Section 4.3.2) was recognised as a limited access to opinions held by this group. The last disadvantage of the case study approach involves the issue of the *'observer effect'*. The 'observer effect' is related to the fact that "people are likely to alter their behaviour when they become aware that they are being observed" (Denscombe 2003:65), for example they can be embarrassed or become defensive. This issue is less relevant to this research, as not people but processes were the subject of the study. The observations used in this study were made during four exercises, in which futures methods were used. In the cases of two of them (*Dublin 2020 Vision* and *Development of community indicators in Ballymun*), the author was given chance to carry out observations under the condition that she would take an active part in carrying out these exercises. The active involvement meant that she was perceived by participants as 'a member of a team' rather than an outside observer. The details of her involvement in these studies are given in further sections. In the case of the remaining two exercises, she was an initiator and organiser of the 'testing' exercise (*Mobile and accessible Dublin*), and a part of the organising team, The Futures Academy, in the case of *Dublin - Belfast economic corridor* study.

The selection of Dublin as a case study city. Three types of selection of a case study can be distinguished: on the basis of 'suitability'; on 'pragmatic' basis; and on the basis of 'no real choice' (Denscombe 2003). As it was already mentioned in Chapter 1, the choice of the case study city was restricted by the requirements of the doctoral

programme, on which the researcher was enrolled. The researcher was appointed to conduct a particular research project[8] with a specified topic and geographical location (Dublin). Therefore, the selection of Dublin as a case study city first and foremost was made on the basis of 'no real choice'. Having said that, the author sees elements of both 'suitability' and 'pragmatism' in this selection. Usually, the 'suitability' of the case for research purposes is justified by the following: a case is a typical instance; it is an extreme instance; it constitutes a test-site for theory; or it is appropriate for testing the validity of theory (Denscombe 2003). Considering the research questions posed in this study ("what is the role of futures methods in city planning processes?" and "in what ways the application of futures thinking and methodologies can improve these processes?"), the city of Dublin can be considered as a 'typical instance', as it is similar in crucial respects to other cities in Ireland, and worldwide. For example, like in most cities, there are a number of different institutions and agencies responsible for its future development; the decision-making powers are divided between political representatives and public administration; development plan is the main mechanisms for planning for the future; there are examples of strategic urban planning; there is public participation in planning processes; and methods and information used in the planning processes are similar to those used in other cities. The 'pragmatism' of the selection lies in the fact that Dublin constitutes the most 'convenient' case for the author, as she studies and lives here.

Case boundaries. The area of Dublin can be perceived in many different ways. For some, it is the area of Dublin City (the operational area of Dublin City Council), while for others, it constitutes the contiguous built-up area of metropolitan Dublin (postal districts 1 to 24 and Lucan and Dun Laoghaire). It is also seen as the area of Dublin county and the immediate neighbouring counties (Wicklow, Kildare, Meath and Louth), which form the Greater Dublin Area. In the context of this study, the researcher has chosen to consider Dublin as an area embraced by four local authorities (Dublin City Council, Fingal County Council, South Dublin County Council and Dun Laoghaire-Rathdown County Council), which is also recognised as the NUTS III[9] level region. This territory seemed to be the most appropriate. The area of just Dublin City is too small; it does not include integral parts, including some of the newer suburbs

[8] The original title of the research project was: "Dublin City Foresight: A feasibility study to establish an urban and regional Foresight Laboratory for the city of Dublin and the region."

[9] NUTS III level regions – regions created in Ireland and other EU countries for the EU Structural Funds purposes.

(e.g. Blanchardstown, Tallaght). The author also considered looking at Dublin within its regional boundaries, but decided that although neighbouring counties are closely linked with Dublin in functional terms (e.g. providing housing and other services for people employed in Dublin), their role in the development of, and influence on the future of Dublin city-region is less significant.

Dublin, within the boundaries set for the purpose of this thesis, is inhabited by 1.1 million people (CSO 2004). Its area is divided between four local authorities: Dublin City Council, Fingal County Council, South Dublin Council and Dun Laoghaire-Rathdown County Council. Each of these authorities is governed by the democratically elected council and managed by a City/County Manager. Local authorities are responsible for the provision of a range of services and they carry out a number of different functions which include housing, planning and development, water supply and sewage, environmental (including waste management, pollution, rivers, lakes), recreation facilities and amenities, arts, libraries, museums and cultural, fire and emergency, burial grounds and community development. The main sources of income for the local government are the rates on commercial and industrial buildings, income from goods and services (e.g. housing rents, planning fees, motor tax), exchequer grants, internal capital grants (e.g. sale of houses or land) and borrowing.

4.3 Research methods

This section discusses the research questions, aim and objectives and demonstrates the methods that were used to address these questions and fulfil the aim and objectives (Fig. 4.2). But before, individual methods will be discussed it is useful to describe, how the main research questions were established. The very broad research topic involved looking at futures methods in the context of urban planning. The first question, "what is the role of futures methods in city planning processes?", was posed in attempt to link both fields. The initial documentary research has shown that many authors recognised the need for futures thinking in the urban planning processes (Isserman 1985, Myers and Kitsuse 2000, Ratcliffe 2001, 2002, Puglisi 2002), and the question that logically followed was: "in what ways the application of futures thinking and methodologies can improve these processes?". On the basis of this question, the main aim of the study was formulated into: "the development of the future-oriented

methodology for use in the urban planning processes". In the next step, the main research questions were deconstructed into a set of research objectives (Fig. 4.2).

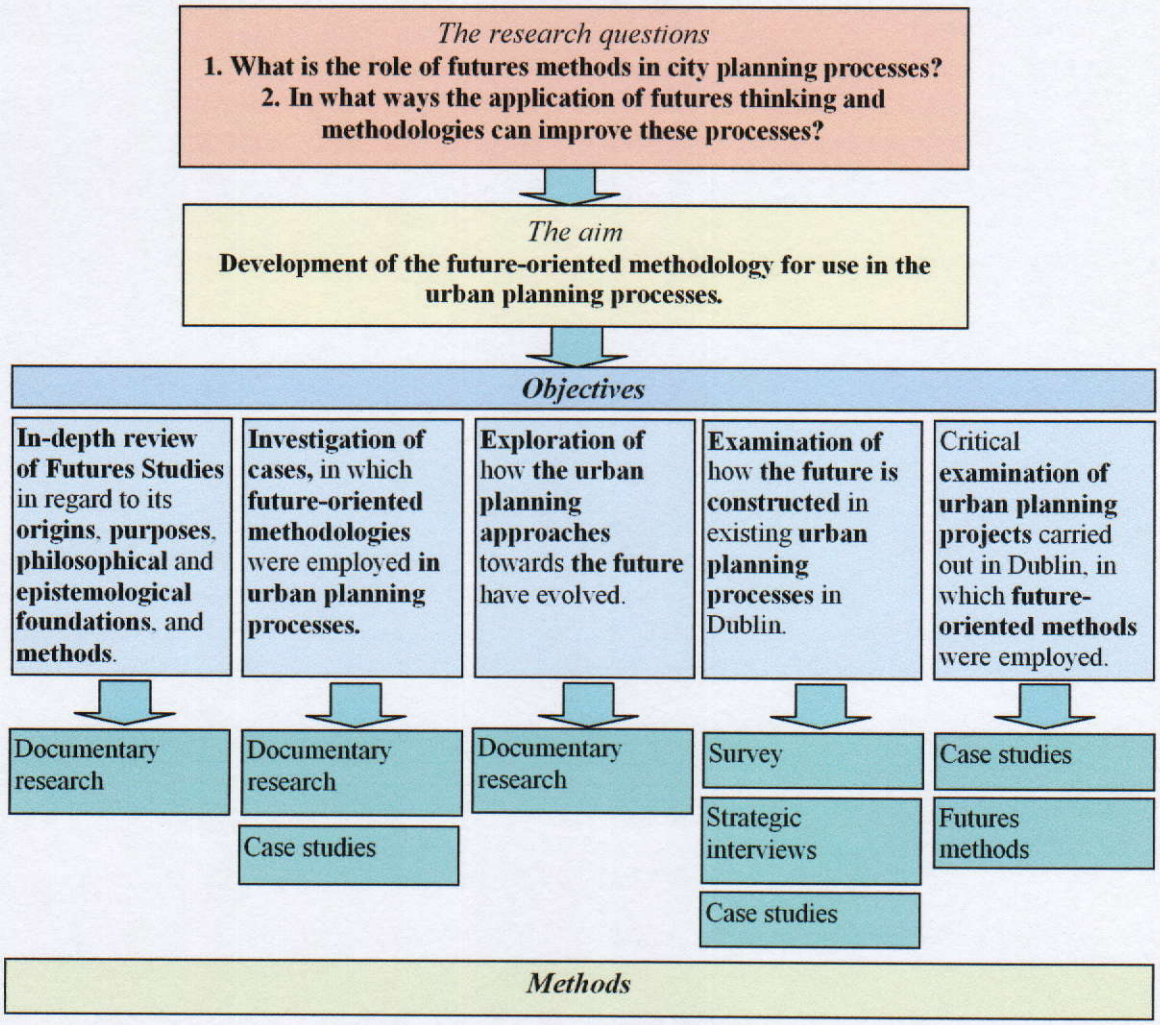

Fig. 4.2 Research questions, aim and objectives and methods used for their completion

As the author was a novice to the Futures Studies field, the first objective involved the examination of the field in regard to its underlying concepts, purposes, characteristics, history, philosophical and epistemological foundations, methodologies and techniques. In order to understand the role of futures methods in urban planning processes, it was necessary, first, to comprehend how the future was approached and constructed in the urban planning context. This involved a documentary investigation into the evolution of this approach over time and the collection of data illustrating the real-life setting using Dublin as a case study city. Finally, to learn about the role of futures methods in city planning processes and the ways these methods can aid these processes, it was required to identify and examine a number of projects, which employed futures methods. There were five cases of such projects identified in Dublin and these were

explored in-depth. Also, four international cases were recognised, but these, due to resource limitations, were investigated only through documentary search. The description of these projects is included in Appendix 2.

The following sections present the individual methods applied in order to fulfil the objectives of the study.

4.3.1 Documentary research

Documentary research has been used for the attainment of a number of different objectives. It was employed as the main method for: (a) review of Futures Studies in regard to its origins, purposes, philosophical and epistemological foundations and methods; (b) exploration of how the urban planning approach towards the future has evolved; and (c) investigation of cases in which future-oriented methodologies were applied in urban planning processes in cities worldwide. The information was gathered from a whole range of various sources: books, thematic journals, published and unpublished reports, internal documents, conference papers and the Internet.

Over the past fifty years, the Futures Studies field has generated an extensive body of literature covering numerous aspects of futures thinking. Among them, the most helpful were expositions offering a general overview of the futures field, such as Eleonora Masini's *Why Futures Studies?*(1993), Wendell Bell's *Foundations of Futures Studies Vol. I* (2003), and edited by Richard Slaughter *The Knowledge Base of Futures Studies, Vol. I-IV* (1997). Important texts, especially for investigation into the Prospective methodology, were the works of Gaston Berger, published in English in the book of Cournard *Shaping the future: Gaston Berger and the concept of prospective* (1974); and Michel Godet's *The crisis in forecasting and the emergence of the prospective approach* (1979) and *Creating Futures: Scenario Planning as a strategic management tool* (2001). Vital sources of information were the futures journals *Futures,* and to a slightly lesser degree *Foresight: the journal of future studies, strategic thinking and policy.* Also, the Internet was a valuable tool in exploring the dissemination of futures thinking and approaches into various fields and disciplines, and its incorporation into the activities of various organisations, such as the United Nations and the European Union.

Documentary sources were used to investigate how the future was perceived, approached and constructed in past and present urban planning processes. Especially helpful in this exploration were the textbooks discussing the history of planning thought and practice, such as Peter Hall's *Urban and regional planning* (1992) and Nigel Taylor's *Urban Planning Theory since 1945* (1998). Although there are literally thousands of books written about various aspects of urban planning, rather few of those focus on the issues directly related to future-orientation of planning. Consequently, it was somewhat of a challenge to find and extract the relevant information. In recent years, the time dimension of planning has been addressed in a number of journal papers. Among them were: Isserman's article *Dare to plan: An Essay on the role of the future in planning practice and education* (1985), Myers and Kitsuse's *Constructing the Future in Planning: a survey of theories and tools* (2000); the articles published by Journal of American Planning Association under the overall title *Symposium: Putting the future in planning* (2001); and several papers and presentations authored by Ratcliffe (2001, 2002).

An important part of the thesis was an examination of cases in which future-oriented methodologies were applied in urban planning processes in cities worldwide. Information to complete this task was gathered from various published and unpublished documents, reports, conference papers, newsletters, 'communication' documents, journal articles and the like. Books were used to a lesser extent. Many of these documents were published on the Internet. Most cities and organisations conducting the projects have websites, on which they communicate and promote their initiatives. Websites usually include information on the origins of the project, methodology, procedures, participants, administrational matters, outcomes and outputs. Reports and newsletters produced by various networks were another resource. An example of such a newsletter is *European Cities in the Making*, published by the working group "Development strategies in Major European Cities" within *Eurocities* network. The newsletter has documented current strategic approaches used in 15 European cities, including Bilbao and Lyon. Exercises undertaken by these cities are described in Appendix 2.

Analysis of various written materials enabled the researcher to gain knowledge and understanding of the Futures Studies field, as well as to expand her knowledge on issues related to the future-orientation of planning. They formed a 'building block' for

further investigation. From the wide range of reading, the most important documents are referenced in this thesis, but it needs to be emphasised that other non-referenced publications also played an important role in developing a greater understanding of the research problem.

4.3.2 In-depth interviews

In-depth interviews, one of the key methods used in this study, were employed to gain an understanding of how the future is being approached and constructed in the urban planning processes in Dublin. Interviews were conducted with key actors and stakeholders with direct or indirect influence over the future of the city. They represented ten different sectors. The sectors and the number of people interviewed within each sector are presented in Table 4.1.

Group	No. of interviewees
Academia	2
Local government	6
Regional government	1
Central government	1
Various governmental and non-governmental agencies, such IBEC, NESC, DTO, FORFÁS, IDA, An Bord Pleanala, DDDA, Dublin Chamber of Commerce and DCBA	11
Planning consultants	2
Community groups	3
Developers	2
Politicians	4
Media	0

Table 4.1 Sector representation of interviewees

These groups were established after a detailed examination of urban planning processes in Dublin in regard to people, organisations, agencies and interest groups involved in these processes. The author aimed to interview at least two people from each group, however, that was not always possible. The interviewees were chosen because of their function within the city (e.g. City/County manager), their specific role within an organisation (e.g. policy director within the Chamber of Commerce), organisation (IDA) or sector in general (developers). While considering a number of people from the same organisation, the researcher analysed the particular work of the prospective interviewees, their publications or participation in future-oriented projects, and approached initially those, whose work and experience seemed most relevant to

the research topic. Out of 43 individuals approached, interviews were conducted with 32. Only with representatives of one group (media) the researcher was unable to arrange an interview despite numerous efforts. Also, quite surprisingly, arranging meetings with representatives from academia proved to be quite difficult. The full list of individuals, who were interviewed, is included in Appendix 3.

The interviews were based on a set of guiding questions (Appendix 4). The question themes were based around the particular issues, the understanding of which was sought. The individual questions were developed in a way that would enable an understanding of various aspects of future-oriented thinking and planning in Dublin, such as the role of different organisations and people in shaping the future of the city, decision-making factors, examples of good future-oriented thinking, factors impeding and encouraging the future-oriented thinking and planning. These questions were treated as guide-posts rather than strict interview questions. Each interview followed its own course, and the order of questions as well as the number of supporting questions unfolded during the conversation. The interviews usually took about an hour; the shortest was conducted over 20 minutes, whilst the longest lasted for 2 hours and 40 minutes. The conversations were recorded on tape, with two exceptions – in the first case the respondent did not agree to be recorded and in the second case – the interview took place in a café, where the noise was too high to enable tape-recording. All recordings were transcribed.

Interviewing is one of the most important methods in qualitative research. It is used to gain valuable insights into peoples' experiences, opinions, values, aspirations, attitudes and feelings (Sanghera 2005). Generally, four types of interviews are distinguished: structured, semi-structured, unstructured/informal and group/focus interviews. While looking at more recent developments in interviewing techniques a number of other types of interviewing can be identified, such as active interviewing, long interviewing, creative interviewing and interviewing as 'a negotiated accomplishment' (Ratcliffe 2002a). In this study, in-depth interviewing method was employed.

In-depth interviews can be seen as a specific form of dialogue being developed over the course of interview. They incorporate elements of both creative interviewing and interviewing as 'a negotiated accomplishment'. 'Creative interviewing' is a form of interview in which the interviewer, using his/her creativity, tries to discover the subject behind the respondent. Through the application of various strategies and tactics, a

feeling of mutual disclosure, based on understanding of friendly feelings and intimacy, is sought (Douglas 1985). Interview as a 'negotiated accomplishment' can be described as a discursive or linguistic experience, in which the meanings of questions and responses are contextually grounded and constructed together by the interviewer and the respondent (Fontana and Frey 2000). In-depth interviews require the researcher to be active and creative in order to identify and explore in-depth issues underlying the subject of the study.

Although methods such as creative interviewing, the interview as a negotiated accomplishment and in-depth interviews have a great potential for discovering deeply embedded experiences, attitudes, opinions, values and mental models, it is necessary to emphasise dangers associated with their application arising from selective perceptions and biased interpretations. Data generated through qualitative interviewing methods has been criticised for its subjectivity. Kvale (1996), while dealing with these criticisms, argues that this problem can be addressed through an intensive training of interviewers in order to make them conscious of their own perceptions and experiences in the interaction. He advocates that researcher's perspectives should clearly be stated in the research report, and the analysis and interpretations of the interview findings should critically be examined in respect to selective perceptions and biased interpretations (*ibid*).

While conducting the in-depth interviews for this study the researcher was aware of different requirements arising from the choice of this type of interviewing method. On one hand, the researcher needed to be active, flexible and creative in trying to establish a relaxed and friendly atmosphere, which would foster insightful conversation. On the other, hand she was aware that she should not voice her own opinions and perceptions as they could influence the respondent's answers. This, as well as requiring confidence as an interviewer, posed a challenge, which the author feels was overcome.

4.3.3 Case studies

Next to the documentary research and in-depth interviews, case studies are the main research method used in this thesis. The case study method is employed to investigate exercises in which futures approaches or methods were used in the urban planning processes in Dublin. Examination of these cases had an exploratory character, with the